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THE FAO EUROPEAN BULLETIN No. 2

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THE MONNET PLAN AND FRENCH AGRICULTURE

by **Michel CÉPÈDE**

Secretary to the French National Committee of FAO

The Monnet plan for equipping French economy and bringing it up to date assigns an important place to agriculture (1). It is a four year plan, 1947-1950, whose aims have been defined by committees on which sat the responsible officials and private experts representing the several groups concerned.

The spirit of the plan is clearly expressed in its title, more especially applicable to French agriculture which is to be equipped and modernized. Equipped, and not only « re-equipped », for besides repairing and replacing the losses caused by the war and the occupation, measures must be taken to make the additions necessary to offset the progress made in countries which have not suffered the same losses and also to make up for some backwardness due to the effects of the first world war and to relaxed effort ante-dating it, due to the absurd policy of supine protectionism inaugurated toward the close of the XIXth century by M. Jules Méline. For these same reasons the plan had also to be a plan of modernization.

The essential feature of the Monnet plan for agriculture is mechanization, more than half of the expenses estimated being allocated for agricultural machinery (180 out of 352 milliards of francs). This is, however, far from being the sole feature. Biological and human equipment, land improvements, public services in rural districts, have not been forgotten. But the former are considered as long term expenditure which could only be set going by the plan, while the others, of a more social character, have in part been delayed to a later date, to 1950. The period over which the Monnet plan extends is indeed a period of penance, during which consumption is deliberately sacrificed in the interest of investments.

The three main purposes modernization has in view are :

(1) the increase of production so as to reduce the need of imports in a period of world scarcity, and even to allow, if possible, of exports ;

(2) the reduction of costs by increasing yields so as to allow of price alignment on the basis of *healthy* competitions ;

(3) to increase human productiveness and the standard of living of the agricultural producers.

The first, and to some extent the second of these aims are covered by the plan, which tries to approach the second, rather than to attain it. The third is only considered in the plan, as it seemed essential that some steps should be taken in this direction so as not to compromise the realization of the plan and its further development.

Although the interdependence of these three aims is clarly shown by the work assigned to the General Inspectorate of Rural Engineering (2), the huge financial effort the plan entails made it necessary to make a selection in favour of those works which would assure the largest immediate return on the invest-

ment. The Monnet plan is the work of experts and practitioners, rather than of economists and above all of sociologists, and it reflects its origin. It must however be admitted that in the four years contemplated it would not have been possible to do more than lay the technical foundations on which to build the new social economy of tomorrow. It will be the task of the plans which should follow on this one, to stress the importance of those social and economic developments which could not be given full expansion right from the start.

* * *

The Monnet Plan should therefore be considered as a stage in the work, the main feature being an exceptionally large investment to be used more especially for providing mechanical equipment for the purpose of allowing of an immediate increase of production, and as a first step towards a further plan to be set going at a later date. In the four years under consideration some new trends should make themselves felt, but it would be vain to hope that they could fundamentally modify the character of French agriculture.

The following investments are provided for by the plan :

While the construction value of existing equipment is estimated at 533 milliards of 1939 francs, calling for a normal annual expenditure on renewal amounting to 11 milliards, the investment on equipment to be made during the period 1947-50 is estimated at approximately 57 milliards.

The need of the leading raw material has been estimated moreover at 3,945,000 tons of iron and steel, 1,627,000 tons of cement, and the labour required is estimated at 1 thousand million hours of work.

Expenditure on agricultural equipment would be distributed as follows :

Plan of agricultural equipment.

(Millions of 1939 francs)

Description	Total cost	1947	1948	1949	1950
I. Agricultural mechanization	30,000	5,000	7,000	8,500	9,500
II. Restriping of holdings	1,400	200	400	400	400
III. Land improvements	2,250	200	400	750	900
IV. Farm roads	1,000	100	200	300	400
V. Rural public services :					
(*a*) Electrification	8,100	1,000	2,000	2,500	2,600
(*b*) Drinking water supply	2,500	350	500	750	900
(*c*) Gas supply	150	30	40	40	40
VI. Plants for processing farm products.	6,400	700	1,600	1,900	2,200
VII. Rural dwellings	2,000	300	400	600	700
VIII. Village planning	200	20	40	60	80
IX. Scientific equipment (schools, expr'it stations)	350	65	80	100	120
X. Forest equipment	2,400	200	400	800	1,000
TOTAL	56,750	8,165	13,060	16,700	18,840

The plan for the mechanization of agriculture requires 200,000 tractors, divided among 7 models only, of which 3 of the caterpillar type (42,500) and 4 on wheels (157,500) and the corresponding material, and 300,000 vehicles for transport fitted with 1 or 2 'pneumatic' axles.

The plan has also estimated the need of fertilizers, insecticides, fungicides, and weed-destroyers at the beginning and at the end of the four-year period ; the estimates compare as follows with the 1938-39 consumption in thousands of tons :

Plan for the consumption of fertilizers, insecticides, fungicides and weed-destroyers.

(Thousands of tons)

Description	1938-39	1947-48	1950-51
Nitrogenous fertilizer	240	350	500
Phosphatic fertilizer ($P^2 0^5$)	405	500	800
Potassic fertilizer ($K^2 0$)	275	500	800
Pure Sulphur	90	80	80
Cupric products	25	30	35
Sundry arseniates	5	16	16
Other insecticides	5	8	11
Mineral oils	2	3.5	5.3
Sulphuric acid for extirpating weeds	30	25	25
Organic weed destroyers	0.4	1	2

The other raw materials required for carrying out the plan are iron and steel and cement, the supply of which is scaled out for the chief needs foreseen as follows :

Purpose	4 year total	1947	1948	1949	1950
Iron and Steel (thous. tons) :					
For mechanization of agriculture	2,600	430	610	740	820
For rural equipment works	1,250	160	280	370	440
TOTAL	3,850	590	890	1,110	1,260
Cement requirements	1,600	200	360	480	560

Account must also be taken of the need of rubber, arising from the mechanization plan at a time when rubber tyres seem essential to modern farm appliances ; special estimates have therefore been made of the supply of rubber tyres that will be required.

Plan for the provision of rubber tyres (1947-1950)

Material to be fitted	Number	Weight in raw rubber for one set Kgs	Total weight of raw rubber tons	Cost of a set 1937 frs	Cost millions of 1939 frs
Tractor	150,000	140	11,000	8,000	1,200
Motor plough and cultivators	20,000	20	400	1,400	30
Fertilizer spreaders and seeders	40,000	67	2680,	4,000	160
Sprayers	20,000	16	320	1,000	20
Mowers, harvesters, etc.	50,000	67	3,300	4,000	200
Combines	2,000	80	160	5,000	10
Threshers, presses, etc.	20,000	80	1,600	5,000	100
2 wheel vehicles	200,000	80	16,000	5,000	1,000
4 wheel vehicles	300,000	120	36,000	7,000	2,100
TOTAL			71.460		4,820

The results that the plan should make it possible to secure in 1948 and 1950 should be those stated below for the leading food products :

Food production plan.

(Thousands of hectares, thousands of tons)

	Average 1934-38	1948 harvest	1950 harvest
Wheat.			
Area	5,225	4,500	(1) 4,200
Yield (tons per ha)	15.6	17.5	19.5
Production	8,150	7,880	8,200
Open field potatoes (2).			
Area	1,420	1,050	1,100
Yield (tons per ha)	11.1	13.5	15.3
Production	15,800	14,200	16,800
Sugar beets.			
Area	315	320	(3) 350
Yield (tons per ha)	27.6	26	30
Production	8,700	9,100	(3) 10,500
Oil Seeds.			
Area	15	180	200
Yield (tons per ha)	12	8	12
Production	18	145	240
Meat.			
Cattle (thousands of tons)	925	775	865
Sheep	85	60	65
Pigs	700	(4) 450	700
Horses	40	40	50
Milk (1937).			
Total production (millions of hectolitres)	145	118	150
of which for direct consumption	110	(5) 96	(5) 135

The output of wine amounts, from 1947 to 1950 (the period during which the vineyards will be restocked), to 40-50 million hectolitres.

(1) The areas unsuited to wheat will be abandoned, thus raising the average yield per ha.
(2) Inclusive of early varieties.
(3) The figures to be reached in 1950 have not yet been definitely settled.
(4) The original plan of production (550,000 tons) has been modified in view of the very bad wheat crop of 1947. The deficit of bread cereals is such that steps will have to be taken to secure all the possible supplies of wheat and of secondary cereals, which will therefore not be available for fattening pigs.
(5) Progressive reduction of the quantities of whole milk used for fattening calves.

If these objects are to be attained it will however be necessary to secure a certain number of conditions. The scale of the plan has undoubtedly been reduced to take into account some of the difficulties in its way that it is impossible to overcome, such as the need of giving absolute priority to some works of reconstruction in the allocation of an important part of the building materials available between now and 1950. But wherever these difficulties do not seem insuperable, the plan has been devised on the supposition of favourable conditions ; let us now see what steps it is proposed to take to secure those conditions.

In the first place, success can only be had if the plan obtains not only the confident but the enthusiastic support of the parties

concerned. The method to which recourse was had in drawing up the plan assured it the support of the élite of the professional experts who helped prepare it, but that is not enough. In each department the plan will be set going and the distribution of the national objectives in view will be made by a commission consisting mainly of farmers, the recognized representatives of their professional organization. This has given rise to the " Departmental Agricultural Council ", which play an essential part in carrying out the plan. In a country where the number of farmers is great, a strong professional organization is an essential feature of " the structure for assuring the acceptance of the plan " (3). Moreover, a great co-operative effort will be required if the most advantageous use is to be made of the limited means available for modernizing French agriculture. Thus, co-operation is required to secure " biological equipment " (selected seed, choice breeding-stock, artificial insemination), as well as for the mechanization (co-operative associations for the joint use of agricultural machinery) of agriculture.

Co-operation for the purchase, sale, and processing of farm products, will also have a part to play in carrying out the plan ; which can only hope to succeed in an atmosphere of co-operation (4).

But it is also necessary that the good-will of the farmers be an enlightened good will, which knows how to obtain the maximum results from the means the plan offers for improving agriculture. There is no doubt that the average capacity of the French farmer, his technical skill and knowledge are very high. but... modern progress has led to fundamental changes in farming to which even the best traditions cannot find an immediate answer. Indeed, in a certain sense, the very technical skill of a traditional farmer stands in the way of his adapting himself readily to the effort required for modernization and above all to his willingness to accept the advice of an expert who "surely knows less about farming than he does ! "...

This is undoubtedly true about the farming methods of yesterday and to-day, but not about those of tomorrow, when technology will be called on to solve problems that tradition never had to tackle. However this may be, the work of technical training, while it should be started as a feature of the plan, cannot hope to yield abundant results in the time limits set.

But apart from the atmosphere in which reception will be given to the plan, there are material conditions essential to its success. We have already seen that it calls for iron and steel, cement, fertilizers, and we know that all this implies coal, one of the materials of which the lack is most keenly felt now in Europe. All these supplies, and rubber is one of them, require also the availability of foreign exchange, and the longer the reconstruction of Europe in general and of France in particular will be delayed by the lack of these means of payment, the greater will be the amounts needed.

Lastly, the execution of the plan presupposes the availability of means for financing it, spread over a period of years, which has been conceived on the following lines (see table No. 1, reproduced on page 3).

Expressed in French francs of 1947 the following investments would have to be made :

The State	42	milliards
Public bodies.	35	»
Agriculturists.	240	»
Private investors other than agriculturists	35	»
Total . . .	352	milliards frs.

This means an investment amounting to about 25 % of the national income during the next few years and would therefore entail :

(1) the limitations of consumption, which otherwise, by increasing more rapidly than expected, would absorb part of the resources required for these investments ;

(2) the rational use made by the producers of the capital they possess which must not be used for purposes of less value than those set forth in the Plan ; therefore some

measure of control must be exercised on investments by the government authorities;

(3) the stability of the currency.

The expenditure required for carrying out this task of bringing agriculture up to date will consist largely in the purchase of imported products (nitrogenous fertilizers) and foreign building materials. Thus the estimates for imports required for equipment in the 1946-1950 period provide 150 million dollars for purchases of materials and agricultural machinery, of which 75 million have already been either ordered or authorized.

These foreign purchases raise the question of the foreign exchange held by France and of her balance of payments. The Monnet Plan foresees the steady growth of French exports to provide sufficient exchange to allow of the purchase of the capital goods required.

So far, however, the growth of exports is not such as to secure the equilibrium of the balance of payments, and France has had to seek foreign credits in order to secure the imports required for carrying out the Monnet Plan.

It must also be noted that agricultural calamities such as the winter frosts of 1946-47, entailing large-scale cereal imports, are of a nature likely to retard the execution of the Monnet Plan, for the insufficiency of the available supplies of foreign bills delays the importations of the capital goods needed for the modernization of all branches of economic activity.

Although the appeal for foreign loans has secured very tangible results, yet France must be able to count on international co-operation and on new loans if she is to import the materials required to re-equip her economy.

Any limitations placed on the several items —raw materials, investments, loans—would entail a delay in the execution of the plan and might even endanger the stability of the whole structure. In the special case of agriculture it is difficult to catch up with lost time (3) and it is not always possible to do in seven or ten years what it had been planned to do in five.

The Monnet Plan is therefore not only a National Plan, but a real Act of Faith in the capacity of man and in international solidarity. From this point of view it is rather more than an experiment from which each can learn lessons applicable to his own case; it might well become part of a valuable work of co-operation if it could be brought into touch with others, as the Washington Preparatory Committee suggested, and as it was decided should be done at the Geneva Conference of the FAO. Should these comparisons and contacts lead to a broader plan, we should then perhaps have the touch-stone which would show the real value of the declarations of international solidarity, and what international organization for regulating the problems of mankind is really worth.

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PLANT GROWTH SUBSTANCES: SOME RECENT APPLICATIONS AND FURTHER POSSIBILITIES

by **J. H. M. van STUIVENBERG**

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During the last 20 years fundamental research work in the field of growth-regulating substances has become increasingly important for the practice of Agriculture and Horticulture.

After it was discovered that some synthetical substances possess activities corresponding to natural phyto-hormones, the Applied Biological Research Institute set to work in order to find and to develop methods for their application. The results have till now been largely satisfying and in ever increasing practical evidence the growth-regulating substances prove to be of immense importance.

1. — The rooting of cuttings.

The first applications of growth-regulating substances were undertaken with the rooting of cuttings.

In numerous countries an extensive research has developed the practical possibilities. This research was and is absolutely necessary, because different plants cannot always be treated alike and often methods must be worked out for special cultures. In the Netherlands the rooting of cuttings is widely used by growers and it may be said, that in this respect the use of growth-regulating substances no longer can be considered as recent, and so we shall not deal with it further.

2. — The inducing of parthenocarpy.

More recent is the use of growth-regulating substances with the purpose to induce the development of parthenocarpic (seedless) fruits.

As a rule fruit setting is impossible without seed development, while certain exceptions are known (e. g. seedless bananas, oranges, grapes, cucumbers).

After several research workers had reached the conclusion that phyto-hormones play a part in the setting of fruit, it was shown by F. E. Gardner and P. C. Marth (U. S. A.), that by spraying flowers with a solution, containing synthetical growth-regulating substances, seedless fruits could be obtained from plants that normally never produce them.

The importance of these discoveries lies not so much in that the consumer finds no trouble with the seeds as far as edible fruits are concerned, but that it becomes possible to grow fruits under conditions, unfavourable for seed-formation and thereby for fruit development.

After the success with holly, seedless tomatoes were grown by a rather troublesome method. Later, when some growth-regulating substances of another type could be used, the application became much simpler.

In 1941 we were able to demonstrate that parthenocarpic fruits can be obtained in this way with a pear variety as well. Swarbrick (England) succeeded in inducing parthenocarpy in apples but, just as was the case with our pear, he found that the fruits dropped, when they were only partly full-grown. At present the artificial fruit-

setting is definitely established with holly and tomato.

In England, according to verbal information by Swarbrick, thousands of pounds of tomatoes come into the market, which without spraying with growth-regulating substances would not reach it.

In this connection β-naphthoxyacetic acid, 2-4-dichlorophenoxyacetic acid and 2-6-dichlorophenoxyacetic acid have been considered with special attention.

Research into these questions with pit-fruits (apples and pears) is of great importance in connection with the problem of nightfrost damage. Often a whole crop of apples and pears is destroyed by night-frosts. For some time now methods to heat the orchards have been tried. Quite new perspectives have opened up, however, as we now have insight into the possibility of neutralizing not the frost, but the resulting damage to the eggs. In our opinion the solution of the problem may be found in the spraying of growth-regulating substances on the ovaries after the pistils or eggs are frozen.

The substances now in use however, have proved to be insufficiently active in this respect with pit and stone fruits.

Looking at the results that have been obtained in this field till now, we are convinced of the ultimate success in connection with these fruits.

3. — Delaying anthesis by means of growth-regulating substances.

If we were able to delay anthesis of fruit trees, the period of the dangerous night-frosts might be safely overcome.

As it is known that phyto-hormones play a considerable part in the developing of a shoot from a bud, it might be possible to produce the desirable delay in anthesis by synthetical growth-regulating substances.

Preliminary results, obtained by Hitchcock and Zimmerman (U. S. A.) open fair prospects in this direction. In July, August and September fruit trees were sprayed with solution of *K*-α naphtylacetate, containing as much as 200, 400 and 800 mg/liter of water. The following spring the flower buds opened up to 14 days (leaf-buds up to 19 days) later than normal, depending on the concentration of the spray-solution, the time of application and the variety.

4. — Prevention of pre-harvest drop.

Spraying with growth-regulating substances can have an enormous effect on the pre-harvest drop, e. g. the dropping of fruits shortly before they can be picked.

This discovery was made by Gardner, Marth and Batjer (U. S. A.), who sprayed apples a short time before harvest with α-naphthyl-acetic acid and other synthetical growth-substances and obtained remarkable results.

From autumn 1940 this effect has been extensively investigated in the Netherlands, especially with α-nahthyl-acetic acid and its potassium salt.

It appeared, that the pre-harvest drop could be suppressed efficiently by spraying with a solution, containing 1 gramme of the growth-regulating substance per 100 litres of water with the late-ripening varieties; with summer-fruit the concentration had to be much lower (viz. 0.5 gramme 100 litres), otherwhise premature ripening and cracking of the fruits occurred. The best time of application appeared to be about 10 to 14 days before the fruits were tree-ripe.

These investigations have led to the result, that in our country the use of growth-regulating substances for this special purpose has become an accepted method in commercial fruit-growing.

The profit for the grower is evident, as far as the prevention of direct losses is concerned. Furthermore the crop can be picked by fewer labourers, who can be employed usefully elsewhere.

Growth regulating substances can also be used to prevent the drop of flowers and

flowerbuds. In our country it was found to be the case amongst others with Begonia by spraying the plants with α-naphthyl-acetate.

5. — Influencing the ripening of fruits.

During the investigations on the prevention of pre-harvest drop we noticed some very conspicuous phenomena as to the influence of growth-regulating substances on the ripening of fruits.

At the end of June some trees of Yellow Transparent, our earliest apple-variety, which comes into the market in July-August, were sprayed with a highly concentrated solution of α-naphthyl-acetate (5 grams per 100 litres of water). Shortly thereafter the only half-grown fruits were over-ripe, mellow, of a nicely yellow colour, which tended strongly to crack, as normally is the case with over-ripe, full-grown fruits of this variety.

The above mentioned observations showed us new fields of application of growth-substances :

(*a*) Spraying the fruits of early ripening varieties on the trees with highly concentrated solutions of growth-regulating substances to quicken their ripening, so that the grower may bring completely ripe fruits into the market about a fortnight earlier than usual.

(*b*) Spraying the picked fruits of some pear varieties, in order to do away with a serious trouble, which they show in certain localities, viz. their non-ripening.

It is remarkable that the improvement of colour development is not always correlated with the softening of the flesh. It became highly probable that the growth-regulating substances have a different influence on some process than on another, or that some special phase of the ripening is influenced while another is not. The observation was made, that the growth-regulating substance calls forth a speeding up of the ripening only at a special physiological phase, and before this phase no influence on the ripening can be noticed. Probably this is the explanation why, shortly after picking, the *Comtesse de Paris* pear, even after treatment with growth-regulating substances, cannot be brought to ripeness ; the sensitive phase not having then been reached.

With the Ster apple a slight influence in the ripening process may be observed after treatment with growth-regulating substance in high concentrations. Fruits picked early can be kept a few months longer in cold-storage, but do not develop any flavour, while fruits treated with α-naphthyl-acetic acid, after picking, did so. Spraying the fruits on the tree with low concentrations of the growth substances (0.5 to 1 gramme per 100 litres of water) had no accelerating effect on their ripening, so that the fear that winter fruit after such a treatment would show a shorter keeping-period turned out to be unfounded.

Though the investigations on the use of growth-regulating substances in order to influence the ripening of fruits have not yet reached the stage of practical application, it is thought that there is a fair chance of finding new ways for fruit storage.

At the same time it is necessary to look for substances which retard the life-functions of the fruits after picking, so that they may be kept for a considerable period without refrigeration.

6. — Application of growth-regulating substances to the storage of potatoes.

(*a*) Potatoes for consumption.

The sprouting of potatoes, especially during the period after the winter until the next crop, is a serious trouble with the storage of potatoes.

Total losses as a result thereof may be estimated at 30,000 to 40,000 tons a year for the Netherlands.

The observations of Guthrie (U. S. A.), who found that the sprouting of potatoes could be inhibited by the vapour of the methyl-ester of α-naphthyl-acetic acid, have

led some Dutch investigators to ascertain whether this growth substance might be used with the storage of potatoes in clamps, huts and cellars.

The growth substance was administered as an acetonic solution and on talcum as a carrier. The application of the growth substance in solution was soon given up, as it appeared that it could be applied more easily in a solid form without any disadvantage.

It was found, that the quantity of the substance to be applied is very closely correlated with the time of application: in the beginning of the season much larger quantities of the growth substance have to be used than later, when the tubers already tend to sprout.

In contrast to the great profits it was observed, however, that if the potatoes were stored at higher temperatures, infection by micro-organism (development of rot) in the treated lots sometimes was considerably higher than in the controls. Upon closer investigation on a very extensive scale in clamps under practical conditions it appeared, that the stimulation of the development of rot is not significant, provided that the potatoes are not kept for a longer time than normal for the given variety. One is contented with the advantages of a small sprout formation at that moment. One should not try and keep an early or a mid-early potato, which normally is removed in February-March, until June. If the potatoes are kept too long, then a strong development of rot will almost always be observed in the lots treated with growth-regulating substances.

At this time experiments are going on in order to ascertain whether, on administration of growth substances, disinfectants might be used advantageously.

The recent data of the practical investigations show that, by treatment with growth-regulating substances, the sprouting of potatoes is lowered considerably. The treatment of potatoes, which normally almost do not sprout, such as Rode Star and Noordeling is, however, not profitable from the economical point of view.

Best results are obtained from a treatment after winter with 100 grammes of 1 % ester on talcum per 70 kgs. of potatoes. To prevent the development of rot a combination of the ester with quick lime is favorable. We are sure, however, that in the future the method will be improved. It will not be astonishing if other substances than the methyl-ester of α-naphthyl-acetic acid come to the front, or combinations either of certain growth-regulating substances, or of these with modern fungicides.

Though the treatment of potatoes already has become an accepted practical method, further research is necessary and certainly in the above mentioned direction. One cannot be content with a not increased development of rot after treatment with growth-regulating substances, but the development of rot as such must be inhibited just as the sprouting. Then the profit for our country may increase from 30,000 to 40,000 tons, possibly to more than 100,000 tons of potatoes. At this moment the losses from rot in potato stocks are still a serious problem.

(*b*) Seed-potatoes.

Investigations on the treatment of seed-potatoes with growth-regulating substances are now going on. Here other problems appear, as with seed-potatoes the inhibition of sprouting may be only temporary, while with consumption potatoes it should last as long as possible.

Some foreign investigators observed a big increase of the crop and of the size of the starch-kernels in the daughter-tubers, when the seed-potatoes were treated with β-indolyl-acetic acid. This question has been the subject of closer investigation, but the above mentioned results could, in our country, not be confirmed. We have gained the impression that only those tubers, which

in some way or another have been "physiologically damaged" to such a degree, that they are no longer capable of producing plants with normal crops, can be more or less brought up to the mark again.

Of the treatment of seed-potatoes it can only be said, that much research has yet to be carried out, but that there are fair prospects of success in this storage field, not of an increase of the crop!

With the above only some of the most important possibilities of the application of synthetical growth-regulating substances have been touched upon. In a number of other fields considerable results have been obtained, of which I only mention the killing of weeds in pastures and in cornfields. This method has not yet been adopted by practice in the Netherlands; extensive investigations, however, are going on in order to ascertain whether this use of growth-regulating substances can be recommended to Dutch Agriculture and, if so, under which conditions.

Certainly not every possibility of application has been dealt with in the foregoing pages.

At the present moment only a few applications are suited for practice, viz.:

the rooting of cuttings.

the prevention of pre-harvest drop of fruit.

the inhibition of sprouting with potatoes for consumption.

the growing of seedless tomatoes (and holly).

weedkilling.

Wageningen (Netherlands), July 1947.

A SURVEY OF CEREAL CONSUMPTION IN ITALY WITH SPECIAL REFERENCE TO THE YEAR 1946-47

by **G. DE MARZI**

Director General of High Commissariat of Nutrition

1. It is a well known fact that cereals constitute the fundamental element of Italian diet. Other foods, as one may easily see from the following table, play a very minor part in Italian diet as compared with that of other countries.

Products	United States	Canada	England	Italy
Cereals	27.6	30	30.1	61.1
Fats	15.4	14.8	17.1	11.6
Sugar	15.6	15.9	15.9	3.6
	58.6	60.7	63.1	76.3
Meat and eggs	16.3	16.4	19.4	4.9
Various	25.1	22.9	17.5	18.8
	100.0	100.0	100.0	100.0

Italy's position, compared to that of other European countries, as regards per capita cereal consumption and the relative percentage of calories obtained from cereals out of the total caloric intake, can be seen from the next table.

In the pre-war period the Italian consumer derived more than 1,600 calories per day, or nearly 2/3 of the daily caloric intake from bread or wheat products (Italian pastes). This explains why the present cereal situation gives much concern to the Italian Government.

2. From the definite statistics available for the year 1946-1947 one may gather certain facts about cereal consumption in Italy.

In that year the harvest yield and the « ammassi » (cereal brought by farmers to government granaries) were undoubtedly sufficient though well below the average for normal times. Neverthless it was found necessary to import vast quantities in order to fulfil the needs of 46 millions of Italians, and in particular to provide bread and wheat products, in amounts notably inferior to normal consumption, to the over 34 million holders of ration cards. Two different categories must be considered in calculating cereal distribution :

Countries	Annual per capita cereal consumption of pre-war period 1934-1938, in kgs.	Daily per capita caloric intake from cereals, in calories	Percentage of calories from cereals out of total daily intake
Austria	164	1,214	43
Belgium	167	1,206	43
Bulgaria	250	2,005	76
Czechoslovakia	148	1,084	43
Denmark	133	927	30
Finland	198	1,431	46
France	186	1.293	46
Germany	141	1,034	36
Greece	165	1,347	57
Hungary	222	1,539	62
Italy	213	1,641	64
Holland	135	976	35
Norway	138	994	34
Poland	200	1,405	55
Portugal	148	1,139	54
Roumania	258	2,060	79
Spain	186	1,391	52
Sweden	131	957	32
Switzerland	166	1,120	36
Yugoslavia	257	2,045	79

Category A) Ration cards holders only.

Category *B*) Farmers producing cereals; these have a legal right to withhold a certain part of their crop.

Table for Category B
(expressed in millionss of Kgs.)

Cereal	Yield	Amount brought to the Ammassi (1)	Needs: for seed	Needs: for fodder and local uses, etc.	Cereal used by farmers as food (2)
Wheat	6,125	2,271	920	200	2,734
Rye	106	13	19	10	56
Barley	231	39	50	120	15
Maize	1,905	265	90	1,200	266
Rice before hulling	469	391	23	20	31
				Total (2)	3,102

(1) Dates are not comparable, as wheat collection for the Ammassi starts in June whereas rice collection continues beyond that month. — (2) Expressed in terms of their wheat equivalent.

102 kgs. were available for every normal ration card holder and an average of 128.7 kgs. for *all* holders when those receiving special or supplementary rations were included in the grand total of 34,200,000 holders in category A. Each member of category B (for cereal growers) received an average of 263 kgs.

The total consumption by 46 millions of Italians, in 1946-1947, was 7 million kgs. of cereal expressed in terms of their wheat equivalent, or a per capita yearly average of 163.4 kgs.

3. The difference between the quantities of cereals available for country dwellers and for the remainder of the population is consistent with the wide divergence in dietetic habits between country and city dwellers and also between various classes.

Amount of cereal consumed between July 1st. 1946 *and June* 30th. 1947
Table for Category A (expressed in thousands of Kgs.)

Specification	Wheat and other cereals (in terms of their wheat equivalent)	Maize	Rice before hulling	Total in wheat equivalent
In stock 1/7/46	496,901	16,660	5,000	513,963
Ammassi from 1/7/46-30/6/47	1,868,876	265,563	392,869	2,416,428 (1)
Imports from 1/7/46-30/6/47	1,391,280	498,513	—	1,772,971
Total available	3,757,057	780,636	397,869	4,703,362
In stock 1/7/47	137,341	209,822	4,000	300,326
Consumption from 1/7/46-30/6/47	3,619,716	570,814	393,869	4,403,036

The following figures for annual per capita bread, flour and wheat products consumption were gathered by the National Research Council, when they conducted a nutrition survey in many Italian provinces, in 1929:

Class	Bread made from wheat flour kgs	Wheat products kgs.	Wheat flour kgs.	Total wheat kgs.
Middle	137.60	33.60	6.44	194.66
Working	161.74	36.99	6.75	224.50
Farming	184.31	28.85	16.05	249.10

It was on account of the high consumption of the farming class that the law concerning « ammassi » permitted them to withhold 240 kilograms per capita.

On comparing the consumption figures just quoted with those given previously for the year 1946-1947 one notes that, due to rationing, there was a sharp decrese in consumption by all classes except farming. The basic ration was 235 grammes of bread or bread substitutes every day, and 2 kgs. of wheat products each month from July to December, 1 kg. each month from December to July.

It was absolutely necessary to allow farmers to withhold enough of their crop to satisfy their needs since without their co-operation

the People's Granaries could not be filled, and because they receive a fixed price for cereals, lower in proportion to that of other products whose sale is not regulated. The excess of the amount withheld over that consumed reaches the markets by clandestine means and serves to bolster up the meagre official quantities received by ration card holders.

The importance of this source of supply can only be guessed at. Estimating the difference between the actual yearly cereal consumption of the farming class as 240 kgs. per capita and the amount they have available, 263 kgs., and multiplying this difference by the number of people (11,800,000) in Catetory B (growers who provide for their own needs) one arrives at a figure which represents the total amount of cereals going to the black market. This figure amounts to 271,400,000 kgs., or about 3% of the total consumption. Adding this figure to that for the amount of cereal available (4,403,000,000 kilograms) to Category A, ration card holders, the annual amount per capita amount available to them would rise from 128.7 kgs. to 136.7 kgs. There is still a wide gap between this figure and that of 180 kgs., estimated for non-farming classes in normal times ; the existence of this gap is a proof of the very poor nutrition of the Italian people.

For several years past cereal consumption has remained 20% lower than the figure for normal times.

How can this gap be filled when other essential food products of high nutritional value, already scarce in normal times, are available to-day in yet smaller quantities ? There were never sufficient quantities of fats, meat, or pulse, not even when agricultural production was in full swing and the Italian population smaller than it is to-day and imports from abroad were easily obtainable.

4. It has always been necessary to import cereals into Italy to make up for the deficiencies of national production. The amount imported varied according to home production but in some years it reached a high of 2 thousand millions of kgs. (2,000,000,000 kgs.). In the period immediately preceding the war 1936/1939-40) the population was 42 million and the average production 7,600,000,000 kgs., a yearly average of 600,000,000 kgs. were imported, or 8% of the amount of wheat available for human consumption. The amount of cereals imported has increased steadily and considerably owing to lowered production and increased population.

	Wheat and other cereals (in terms of their wheat equivalent)	Maize	Rice before hulling	Total	
				Cereals	Wheat equivalent
Actual 1946-1947 consumption	3,619,716	570,814	393,869	4,584,399	4,403,036
Theoretical consumption of the entire ration (equivalent in wheat).			4,759,301		
Consumption reduced by cutting normal ration to 1 kg. for 7 months : 235,300 thousands of kilos, equivalent in wheat to		303,537			
Consumption reduced by incomplete wheat products distribution in the provinces : 58,932 thousands of kilos, equivalent in wheat to.		76,318			
Consumption reduced by incomplete maize meal distribution in 40 provinces . . .		31,368			
			411,223		
Cereal consumption distribution of ration.					4,348.078
Excess in actual over theoretical consumption					54,958

All amounts are expressed in thousands of kilos.

In the year 1946-1947 cereal imports reached the figure of 1,773,000,000 kgs. of cereals (expressed in terms of their wheat equivalent), this represents 38% of the total cereals available to ration card holders and 22.3% of the total yearly consumption of the whole population.

The High Food Commission appointed the Italian Federation for Agricultural Unions to work out a distribution system for cereals from the "ammassi" and import sources to meet the pledges given in the ration schedules. In performing this task great care was taken to reduce to a minimum the inevitable losses that occur between the time a product is put in storage and the moment it reaches the consumer. A useful comparison for the 1946-1947 campaign can be drawn between the actual consumption, which, as shown before, amounted to 4,403,086,000 kgs. of cereals expressed in terms of their wheat equivalent, and the theoretical consumption; this comparison gives one an idea of the losses incurred.

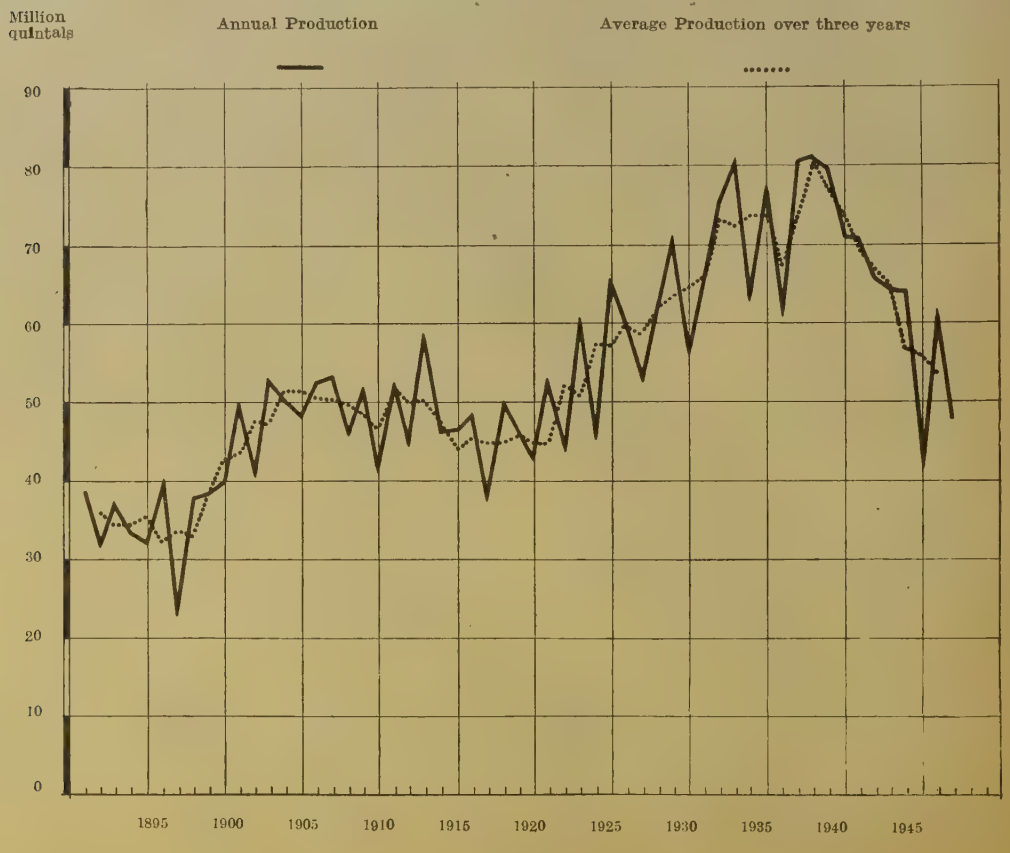
The results are expressed in the preceding table.

The gist of the matter is this: The excess actual consumption over that estimated theoretically (the projected ration was 235 grammes of bread daily and 2 kgs. of wheat products monthly, but the amount not distributed because of a cereal shortage must be deducted from this to arrive at the theoretical figure) amounted to 54,958,000 kgs. or barely 1.25% of the total consumption by ration card holders. This goes to show:

(1) That the theoretical calculation of consumption was made objectively;

(2) That the storage of the cereals was the object of diligent, scrupulous and watchful care and that every kind of means was employed to transport the cereals and ensure their rapid delivery to the consumer.

WHEAT PRODUCTION IN ITALY 1891 - 1947



Repairing War-Losses to the Cattle Population in the Netherlands

by Ir. Th. C. J. M. RIJSSENBEEK

Of the Animal Husbandry Department of the Ministry of Agriculture

The effect of the war on the various kinds of livestock was in the Netherlands, as I suppose it was in every other country, very unequal.

The Netherlands is a very densely populated country and the foremost concern of the Government at the outbreak of the war was to safeguard the consumption of bread. Home-production of grain (wheat and rye) for human consumption is about 50 per cent of the requisite amount, so it was evident that those animals which are consumers of the same food as mankind, such as swine and poultry, had to undergo a severe cut in numbers. The pig population went down at its lowest point to 30 per cent of the pre-war level, the poultry stock to 10 per cent. Owing to their natural ability for a quick renewal the pig and poultry populations have now both risen to about 50 per cent of the pre-war level. Only the scarcity of feeding-stuffs and the difficulties with the import of corn, barley etc. from abroad prevent a further restoration.

As for the quality it has been possible to preserve the best strains during the war, so that the rebuilding started with good material. Shows and exhibitions have already shown that the present-day quality of the breeding stock is at least as good, perhaps even better than before. This is mainly due to the fact that special regulations protected pedigree stock against requisitioning, etc. with the result that many farmers took to pedigree breeding. The members of the Herdbook Societies for Pigs number at present ± 40,000, while some 3,000 farms are in use for poultry breeding on a pedigree basis. These farms provide all chicks for the extension and maintenance of the poultry stock.

With horses the situation was very different. Owing to the impossibility of importing motor-cars, lorries and fuel, the number of horses was, in spite of requisitions, fairly well maintained. Only immediately after the liberation, arose, however, a sharp demand for horses, on account of ruthless requisitioning in the last stages of the war, and accumulation of work on the farm, which had been impossible to accomplish immediately before and during the liberation and then had to be handled at once to secure the harvest of 1945. Canada stepped in with some 1,800 horses to fill the worst gap, but at the end of 1945 the most critical phase had been overcome, and in 1946 the Netherlands had again become a horse exporting country.

Though the ruthless requisitioning of 1944-1945 had cost us many good brood mares, the best breeding stock had been preserved by similar regulations as had been taken for pigs and poultry. The effects of these regulations have been shown at the big 1946 horse-shows at Den Bosch, Utrecht and Veendam.

The number of goats showed a big increase during the war, as many people tried to secure a goat for their milksupply.

Sheep were in a bad position on account of the heavy demand for meat. They showed a decrease of 70 per cent but the almost equally urgent need for wool prevented a further decline.

For our stock of cattle, the situation was more difficult and complicated and, as cattle are the backbone of animal husbandry in the

Netherlands, the next pages will deal with the restoration of cattle-breeding.

The first attack on the cattle was made at the beginning of the war, to which attack the Dutch under pressure of hard facts gave way. The facts that made it necessary to restrict the number of cattle were :

1. the necessity of cultivating more wheat and rye for human consumption ;

2. the impossibility of importing feeding-stuffs or of growing them ourselves, as all arable land was badly needed for human consumption as stated above.

The ratio between arable land and permanent pasture changed from 930 to 1,341 thousand hectares in 1939, to 1,129 and 1,144 thousand hectares in 1943. In 1946 it was still 1,110 thousand hectares arable land to 1,192 thousand hectares pasture.

One may ask why no more pasture has been broken up but, in answer to this question, I will draw attention to the fact that a great part, in fact 38 per cent, of Dutch soil is below sea level. The greater part of the fields in these districts are too wet to be arable. Then the farmers were very reluctant to break up their pastures as the quality of these has a good reputation and it will take them at least five years, but often more, to restore the original quality of pasture.

It was then decided that the number of milch cows should be decreased from one million, five hundred and sixty-six thousand head in 1939 to one million, two hundred thousand head. This number was considered the lowest possible margin. Any further reduction would damage the stock to such an extent that the rebuilding would be impossible by our own means and without considerable cost.

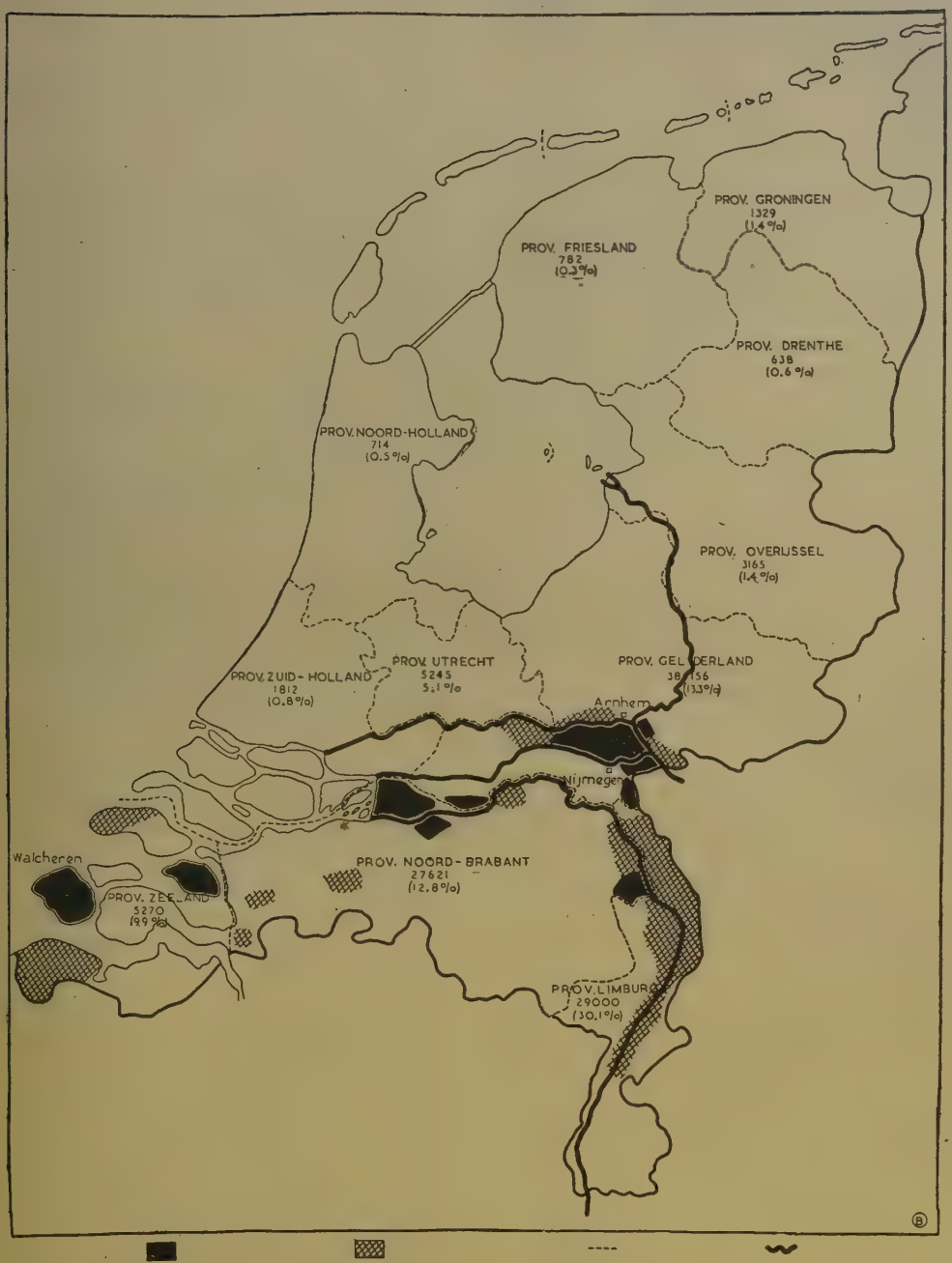
After this reduction was realized by slaughtering and « export » to Germany, the level was maintained by allocations, a severe restriction of the number of calves to be reared and a compulsory delivery for the meat-consumption. Only 20 per cent of allocated number of cows could be reared from the calvings. For each animal over one year, 110 kg. live weight had to be delivered for consumption.

Pedigree breeders were allowed to rear an unrestricted number of bull-calves to have a possibility of culling. The young bulls that did not reach a sufficient standard were turned out and helped in this way to make it easier for the farmer to deliver his quota of meat. The breeding stock could be saved and this is the main reason why pedigree breeding attracted so many farmers during the war, that the number of members of the Herdbook Associations nearly doubled. To-day it is approx. thirty thousand.

The percentage of calves allowed to be reared met with great obstruction from the farmers. Soon it was clear that this percentage was too low to keep even the restricted number of cows. A different system was set up in 1943 by which it was allowed to have 75 per cent of young stock (in-calf heifers included) out of the fixed number of adult cows at the farm. This system met with general approval and when farmers realised in 1944 what was to come they gave a very liberal reading to the 75 per cent, especially since the control was not effective through shortage of manpower and the reluctance of the service in charge to take these things seriously in the last years of the war. These circumstances made it possible for the numbers of young stock at the end of 1944 to be even greater than the pre-war figures. It is due to this fact that, when the war came to our frontiers and big numbers of cattle were stolen, killed or evacuated (which all meant total loss) out of the war-zones in the east or slaughtered for the starving human population in the west, it was still possible to make a comparatively quick come-back when victory was brought to our country.

The direct losses from the war from the landings of September 17th, 1944 until the liberation are given for each province in the Chart. The areas where not a single head of cattle was left, are marked black. This shows that only four provinces in the southern part of the country had to compete with serious losses in cattle. On the other hand the best breeding districts of our famous black and

THE NETHERLANDS



Total loss of cattle | Partial loss of cattle | Provincial border | River

— The figures under the names of the provinces show the total number of cattle lost in that province.

— Between brackets the percentage of the loss out of the total cattle population of the province concerned.

white cattle in Friesland and Noord-Holland suffered practically nothing, though the latter had to give up their young stock to feed the starving population in the big towns.

A special organization was set up by the Ministry of Agriculture to repair war-losses in the agricultural area. This organization, « the Service for the Rehabilitation of Agriculture », called in the help of the Food Service, the Agricultural Advisors, the Herdbook Associations and the Farmers Associations. A scheme was put into operation to restore to farmers their lost cattle and to build up the cattle population.

Under this scheme the following numbers of cattle were sent to the ravaged districts.

Province	Head of cattle
Groningen	380
Friesland	240
Drenthe	260
Overijssel	1 430
Gelderland	14 810
Utrecht	1 620
Noord-Holland	710
Zuid-Holland	750
Zeeland	6 200
Noord-Brabant	9 ,500
Limburg	16 300
	52 200

The price of these cattle was subtracted from the compensation farmers received from the State to repair their losses.

When things had begun to settle down a little, transport became easier, the risk had disappeared that prices would go up through a sudden and heavy demand, and farmers were provided with money so that they themselves could buy stock still lacking. For this purpose the following sums were placed at the disposal of the farmers.

Horses	fl. (1)	3,918,025 —
Cattle	»	2,053,465 —
Small stock	»	5,275,265 —

The census of May 1947 showed an increasing number of 1,202,852 milch cows, as against 1,188,212 cows in 1945. This figure may be considered in line with the area of permanent pasture, the rationing of concentrates and the shortage of manpower for milking. It would be impossible to keep and feed under the present conditions the pre-war number of milking cows.

It must be considered a big advantage that it has been possible to repair the losses in cattle by our own means. Though losses were severe in some districts we have been very lucky in others, especially in the main breeding districts.

The continued work on breed improvement showed its results in the high standard of the breeding stock that was shown at the post-war breeding competitions. This was not only an advantage for the rebuilding of the stock in the war-zones, but made it even possible to satisfy, as early as 1946, customers from abroad.

When reading this report one may get the impression that it has not been a very hard job to restore cattle to the ravaged districts. Still, there were some difficulties, as may be gathered from the following detailed story.

When the airborne divisions were dropped on September 17th, 1944 near Nijmegen and Arnhem, the first town was soon liberated, but Arnhem remained in German hands until April 1945.

The allies erected a defense line round Nijmegen and the country between the two cities, known amongst the troops as « the island » (on account of the rivers), and also the stretch of land east of Nijmegen, became frontline for half a year. The human population was evacuated ; the cattle partly evacuated, partly stolen, partly shot. The land was shelled, mined, cut by trenches, ploughed by tanks, covered with barbed wire and finally inundated before liberation came in the spring of 1945. I passed the " island " for the first time on the 26th April and it was the most gruesome sight I have ever witnessed. Not a living soul, not even a cat was to be found in the ruined villages, in the fields or amongst the ruins of the farms. What reminded one of life were the corpses of horses and cattle in

(1) Dutch Guilders.

the fields or along the white tape, that marked what had been a road from the mine fields. These corpses had lain there from September and infected the air. The country, once famous for its orchards, was just one ugly mess.

People began to drift in, in May ; pioneers, who had to start afresh as not even the water could be trusted. Preparations to bring cattle for milk and for a living started in June 1945. In July the first purchases were effected. Separate arrangements were made for the purchase of pedigree and non-pedigree cattle.

Non-pedigree cattle were bought on special terms at the market of Leewarden. But also Brabant and Limburg were buying at this market. So only a restricted number was available. In the meantime the demand became acute as the grass became hay on the roots. Once at home the farmers wanted cattle quickly. There was no time and there were no implements for haymaking. Transport was another difficulty. Cattle could not be transported by rail as the bridges were blown up. The Germans had taken all rolling stock, so transport started with old vehicles, that had been left behind. From these days date the historic words, « that the Netherlands needed a fleet of lorries and rivers of petrol ».

When cattle began to come in in appreciable numbers autumn was near and their housing needed attention. Emergency stables were promised before winter, but the difficulties in the building trade were perhaps even greater than elsewhere, and so it was January 1946 before all cows were under shelter.

Pedigree cattle were bought at the farm. This was a most delicate task. It is possible to replace a cow by another cow, but it is impossible to replace a pedigree cow, whose ancestry has been bred for generations on the farm, by another cow that has the same value for the breeder. I must acknowledge that this was very well understood by the breeders in Friesland, who were very broad-minded in giving the buying-committee the opportunity to choose and buy out of their herds for very moderate prices.

Nevertheless there have been disappointments generally. When a man has lost all his cattle and he gets an equal number back from the market or elsewhere, it is not the same thing. It will take at least one year before he is used to the particularities of his new herd and the cattle are adapted to the new environment.

Disappointments were more numerous than was anticipated in the cattle from the market. These had to be re-examined at the farm to ensure fairness over the compensations.

In 1946, however, a new foundation was laid for the rebuilding and increase of stock on the farm. Special facilities were given when artificial insemination was introduced to re-establish the original breed. For instance in Limburg the original red and white cattle were replaced by black and whites as the red and white breeding districts had suffered everywhere, and no extra stock was available for replacements. Farmers, however, intended to go back to their original breed as soon as possible and here artificial insemination from a good bull was considered to be very useful. Mention must be made here of the Eire-Fund for damaged war-zones, out of which fifty per cent of the price of the bulls that were bought for these districts was refunded.

In every war-district the replacement of cattle-stock was carried out along the same lines. The island of Walcheren needed more attention, as it was inundated by the sea and the pastures had completely disappeared. Only in 1947 was it possible to start on some scale to re-establish cattle on Walcheren, and it will be another two or three years before conditions will be normal again. The plans are to bring only cattle free from tuberculosis to Walcheren.

In conclusion I should like to state that, though on the surface or from the figures conditions seem quite satisfactory again, it is impossible to re-establish for the man in the front-line the hundred and one things he has lost and which he cannot get back either of the same quality or at the same price. It will take continuous care to again bring these districts in line with the privileged areas that know the war only from hear-say or the printed word.

On the Energetic Evaluation of Fodder Requirement and Nutritive Effect

by **Edgar CRASEMANN**
Professor at the Federal Polytechnic College, Zürich

Since their very first stages dating back to the 18th century, the science and theory of the feeding of agricultural animals have aimed at ascertaining those methods of feeding, which are best adapted to the requirements of the beasts in question. From this aim there arose a task which has constantly recurred up to the present day.

1. Research work on material and energy *requirements* of agricultural animals according to their origin, hereditary qualities, condition and output.
2. The promotion of knowledge available on the material and energetic *effect* of nutritive substances and fodders in the animal organism.
3. The establishment of feeding regulations according to which need and effect can be coordinated to the best advantage.

This three-fold task gave and still gives rise to the need for ascertaining *measurable quantities* which permit of expressing nutritional requirements and nutritional effect on a uniform and quantitative basis. The endeavours originating from the research results of Max Rubner (1854-1932) were successful in this respect in filling this need from the energetic aspect. Thus Oskar Kellner (1851-1911) succeeded in evaluating by measurement and comparison the nutritional requirements and nutritional effects in *net calories*. His evaluation is explained by the following example :

An ox putting on 1,000 grams of fat accomplishes an animal performance corresponding to a net energy of 9,5 x 1,000 (9,5 *kcal* = combustion heat of 1 g. of body fat) = 9,500 *kcal*. It requires a *production feed* (fodder administered in excess of *maintenance requirements*) which after deduction of all losses likewise yields a net energy of 9,500 *kcal*. We find these losses in the solid and liquid excrements, in the fermentation gases (only in the case of ruminants) and in the formation of heat. Consequently the *net energy of the fodder* is based on the formula :

kcal net energy = *kcal* fodder (1) — [*kcal* feces + *kcal* urine = *kcal* methane + *kcal* heat]

The net energy necessary for the fattening ox in the production fodder is, for example, contained in 4,02 kg. potato starch or in 4,24 kg. wheat gluten.

The evaluation of nutritional requirements and nutritional effect in net calories would yield very simple and unequivocal results, if one and the same nutritive substance or one and the same fodder gave, regardless of the type of animal and the performance (work, fat, meat, milk, eggs, etc.) and regardless of the method of administration, always the same net energy. The fact that this is not, or only partly, the case represents a great obstacle, which difficulty has recently induced various authors to abandon the evaluation method introduced by Kellner. In this respect it must be added that, as seen from the point of view of agricultural animal farming, it depends finally on what the animal performs

(1) Combustion heat = gross energy of fodder.

on the one hand and what the fodder produces on the other hand. It would therefore be a great pity if the net calorie, which permits of determining *directly* the performance of the animal and the energy yield of the fodder, were to be abandoned as an evaluation unit.

More or less valuable clues are, of course, given for the energy requirements of the animal and the energetic fodder effect by the purely analytically determinable *gross energy*, likewise the chemico-physiologically determined energy of *digestible* fodder [= *kcal* fodder — *kcal* feces] or, as has also been suggested, the *metabolizable energy* [= *kcal* fodder — (*kcal* feces + *kcal* urine + *kcal* methane)]. None of these quantities is however as useful as the net energy aiming directly at the task set, which consists in producing the maximum harmony between the energy requirements of the animal and the energetic fodder effect.

The net energy, from which O. Kellner started out, related at first to only *one* category of animals (bovine species) and only to *one* type of performance (the formation of fat). By comparing, by means of complete metabolic tests with fully-grown oxen, the net energy of the nutritive substances and feedingstuffs appearing in the fat accumulated with the net energy of fat from one kg. of digestible starch, which latter he fixed as 1, Kellner arrived at his well-known *starch-value*. Today we define this unit as follows: the starch value (St. V.) indicates the number of kilograms of the digestible nutritive substance starch which, administered in the production fodder in the fattening of the fully-grown ox, has the same fattening effect as the nutritive substance or the feedingstuff to be evaluated. The fattening effect of a *starch unit* (St. U.) corresponds to the fattening effect of 1 kilogram of digestible starch. This fattening effect amounts to 2,360 *kcal* of net energy = 248 grams of body fat.

The essential feature of the Kellner method of evaluation is *not* comparison with the starch (starch value) but the fact that it is based on the energetic effect of the nutritive substances and feedingstuffs (net energy) or on the energetically measured performance of the animal.

Kellner already began to introduce the starch value (*fattening starch unit*) determined in the bovine species also for *other types of performance and domestic animals* as a scale for the nutritional requirements or nutritional effect, which method was later generally adopted, although the basic material acquired is still very inadequate. With regard to the *energetic effect of a starch unit* (St. U.) the following statements, which have been more or less experimentally substantiated, can be put forward today:

A starch unit (fattening starch unit) determined with the fattening animal of the bovine species corresponds to the following net energies..

Type of animal	Type of performance	Net energy	Relative value of the net energy with the effect of the fattening starch value equal to 1
Bovine species.	Maintenance	3,760 *kcal*	1.6
(ox)	Formation of fat	2,360 » = 248 gms. fat	1.0
	» » meat	4,100 » = 725 gms. protein	1.7
	Milk	2,800 » = 4 kg. (3,5 % fat)	1.2
	Work	1,254 » = 534.000 mgk.	0.5
Horse	Maintenance	3,760 »	1.6
	Work	1,254 » = 534.000 mkg.	0.5
Pig	Maintenance	4,080 »	1.7
	Formation of fat	3,490 » = 367 gms. fat	1.5
Rabbit	Maintenance	4,270 »	1.8
	Formation of fat	2,590 » = 273 gms. fat	1.1
Hen	Maintenance	4,185 »	1.8
	Formation of fat	2,393 » = 252 gms. fat	1.0

Most comparative values contained in this table require further examination; consequently the table may *not be used too schematically*, but is only intended to provide clues. By way of restriction, it must be added that the comparative values for *pig*, *rabbit* and *hen* are based on experiments which were carried out *exclusively with highly-digestible* (*i. e. containing little ballast*) *nutritive substances or feeding-stuffs.*

Both the above table and the few remarks added reveal that research still has to perform extensive and toilsome work if it is to succeed in developing the net energy or starch value (or any other quantity derived from net energy such as the milk starch value or the fodder unit) to a reliable and generally applicable unit for nutritional requirements and nutritional effect. Generally speaking, it is a question of extending and deepening, in respect of all classes of domestic animals, the study of the energetics of maintenance, of fat, meat, milk, egg production and work under certain well-defined maintenance and feeding conditions, which study has already been successfully commenced by many highly reputed scientists.

At the same time the extent and variety of the programme to be got through need not discourage. Its realization will in any case produce valuable results both in scientific and practical respects, even if the goal outlined here, the creation of a reliable and generally applicable method of evaluation for nutritional requirements and effect, is not attained by a long way.

UNIFICATION AND STANDARDIZATION OF AGRICULTURAL MACHINES

by **Nerlo NERLI**

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The principle of unification, sometimes referred to as standardization or normalization, can be applied to many branches of technology and science. So far the trend has been mainly towards the industrial field and more particularly towards the establishment of specifications of quality and size. In Italy, as in Switzerland and Germany, it is mainly size that has been unified, while in Anglo-Saxon countries the insistence has been on quality and has been mainly concerned with raw materials and their classification, methods of testing and their results, etc. However, where special bodies have been appointed to undertake a unification job the trend has been in both directions.

The exact meaning of the expression standardization has not yet been determined in the international technical field. In the United States it is currently used as a synonym for "simplification" in the sense of a reduction of an excessive number of types or models of the same object, but rather from a commercial than a technical point of view. Sometimes standardization implies the selection of a certain number of objects in a series with a view to reducing their price.

The expression standardization may be used where the description of an object is limited to a mere indication of its principal dimensions; whereas, if the description has

as its aim the establishment of interchangeability (with other similar objects), then one enters the field of unification. This may be summed up by stating that the standardization of a complete unit is the first step towards the unification of its component parts.

In the realm of agricultural machinery, before rational methods of standardization can be applied which may affect construction details of various machines, a vigorous effort must be made to simplify construction, along American lines of standardization. First of all the number of superfluous types and models in the principal categories of machines (which thoughtless engineers continue to increase to the great detriment both of customer and manufacturer) must be reduced. The task of carrying out this programme will be lightened if steady and rational efforts towards the unification of the principal parts of various machines are undertaken at the same time. This latter work is the province of special bodies dealing with unification whose work has already given, for quite some time past, useful results in the machine industry as a whole.

It will be easily understood by all what real technical and economic advantages may be reaped, in every way, from well-thought-out and rational unification : order and discipline then become the rule in production and that in itself is one of the most important and useful goals towards which scientific working methods can aim.

For the purposes of the machine industry, and especially in the manufacturing of agricultural machinery, unification encourages mass production with its many advantages, both from the technical standpoint and from that of the production costs which, for several reasons, can thereby be greatly reduced. One of the main advantages derived is that unified spare parts become interchangeable. This makes it much easier and quicker for the farmer to get any spare part when he needs it. The life of the machines is prolonged because certain parts may be replaced, and expenses for upkeep and repair of the machinery are lower, as is the amount to be written off annually for amortization.

Mass production is encouraged by unification which brings with it many advantages for large factories and perhaps even more for smaller ones; these may either produce, given adequate means of specialization, single parts for larger concerns, or may obtain from other firms such parts as it would be uneconomic to produce themselves.

Though unification brings many obvious advantages there are also some drawbacks. Some people maintain that, where unification is carried too far, it interferes with the liberty of private enterprise; this fear, however, is quite unfounded since unification in no sense limits the inventive genius of the engineer, who may perfectly easily design new machines made up of unified elements. Nor should it be feared that unification, by establishing specifications for materials, shapes, and sizes of parts, will erect a barrier to technical progress ; as a matter of fact all unification tables are planned with a view to future developments, so that they may remain valid as long as possible, and with the premise that they shall be replaced by others when they no longer conform to the needs of technical progress or changed conditions.

I have already mentioned that unification, essentially a collective enterprise, had to receive aid from national co-ordinating bodies ; during the past thirty years such bodies have been formed all over Europe, in the United States and in certain parts of the British Empire, on the model of the original body which was formed in England as far back as 1901. Though conspicuous work has been done throughout the machine industry as a whole, so much cannot be said for the production of agricultural machinery in particular. Perhaps this is due to the traditionalist attitude of agricultural circles, where there has always been insufficient interest both on the part of manufacturers and their potential customers. It should, however, be noted that a certain number of parts have

been already unified and can be put to immediate use, and have in some cases already been adopted, in the production of agricultural machines.

Some positive results have been obtained during the past few years in Germany and the United States, and to a lesser degree in England and in France, in the unification of agricultural machinery and farm implements. In Italy this problem was only tackled in 1942-1943 by the Ministries of Agriculture and Corporations, but the declaration of a state of emergency cut short all activity in this line, and one may only hope that it will begin again, and arrive at some tangible results as quickly as possible.

In Germany the Din Land was created by the National Unification Corporation (D.I.N.) to study unification problems of agricultural machinery; it published various tables concerning tractors and reaping machines, in particular, and the methods of testing employed together with the results obtained. In the United States the American Society of Agricultural Engineers (ASAE) took over this work and dealt particularly with unification and testing of certain tractor parts. In France, the Council of farm machinery manufacturers formed a special commission which works with the Ministry of Agriculture in a French Normalization Association (Association française de normalisation, ANFOR); the Association has already obtained some results, mainly in the field of working parts of ploughs and other similar implements, of tools and power shafts.

In Italy, between the end of 1942 and August 1943, work was begun under the auspices of the Ministries of Agriculture and Corporations, and under the direction of the U.N.I., that aimed not only at unifying many parts but also at the standardization of more important agricultural machinery.

The problem of unification and standardization of agricultural machinery was also considered at the first meeting of experts in agricultural machinery held in Rome this year, April 16-18, by the Temporary Bureau in Europe of the Food and Agriculture Organization of the United Nations (FAO) in the old headquarters of the International Institute of Agriculture. Professor Boudry, Swiss delegate and member of the International Commission on Rural Engineering, read a paper which he devoted in particular to the possibility of unifying the construction and certain working parts of tractors: wheels, speed, power take-off, gauge, draw-bar-hook, etc.

I will now consider in detail what results have been obtained already and what may eventually be achieved in the unification and standardization of some of the more important farm machinery, above all of the tractor, because its greater importance has always attracted the chief attention of experts and research workers the world over.

In Germany and in the United States the following parts of farm tractors have been unified: three types of power take-offs in diameters of 28.5, 35 and 42 millimeters and with right-hand rotation of 540 revolutions per minute, attachment plates, draw-bars, driving seat position; there has also been unification of testing methods. Efforts were later made in Germany to widen the field of unification and, in February 1946, a study was published, summarized in tables, outlining definite projects for the unification of tractor speeds, road rims for tires, turning radius, distance between wheels for cultivation in rows, horse-power and number of revolutions per minute, controls and gears, belt pulleys, etc.

At the FAO meeting of experts Professor Boudry himself made several suggestion on unification, mainly concerning tractors.

These suggestions, bearing especially on Swiss agriculture, must obviously undergo revision before a general solution can be arrived at; credit, however, must be given to Professor Boudry for reopening this important question, one of the most fascinating in the field of agricultural machinery unification.

The unification, or better the standardization, of ploughs and other cultivating machinery is fraught with difficulties. This is primarily the case in Italy where ploughs are generally the work of craftsmen, a fact which explains the unnecessary number of types, out of all proportion to the actual requirements of agriculture. The resulting inconvenience to manufacturers and above all to farmers may be easily imagined. Mass production is not possible and so production costs are high; the necessity of producing great numbers of multifarious spare parts lays a heavy burden on the manufacturer, while making it difficult for the farmer to find readily any spare part when the need arises.

In Italy there are also hundreds of different models of drills, mostly hand-made in workshops, whose diversity is completely unjustified by varied regional requirements. A rational standardization is, therefore desirable, but certain difficulties may be foreseen in carrying it out.

Unification might be carried out for other tractor parts such as force distributors, seed pipes, furrowing machines, attachment of means of traction (shafts, poles or forecarriage) and finally for wheels, which should not be considered separately but whose unification should form part of a general unification scheme for all idle wheels in agricultural machinery.

The standardization of reaping machinery should be easier, as few firms are engaged in their manufacture and the number of types produced is correspondingly low.

The cutting knives are already practically unified. All parts of the cutting bar and certain ones of the transmission, as well as the idle wheels, could form part of a unification project. Reference should be made to Table No. 300, and others following, issued by the German DIN LAND organization, to ascertain what has already been done in this field.

There are even fewer models of haymakers than there are of reaping machines, so that their standardization will be even easier. The wheels and working parts, such as rake teeth and sidedelivery rakes, spring forks etc. could easily be unified.

The standardization of the threshing machine, on account of its complicated structure, is, on the other hand, more than a little perplexing, whereas it affords vast possibilities as regard the unification of its parts, so far applied only to the cylinder bar. Changing component parts should be made easy, economical and speedy, as threshing machines have to meet unforeseen requirements during the relatively short season they are in use.

A qualitative unification of construction materials used in the parts should be aimed at as well as unification of their size. This problem brings into question the interests of machinery manufacturers and metallurgists. A qualitative unification naturally presupposes unification of methods used for testing whether a material has the requisite qualities and the proper tolerances.

Several tables have already been drawn up by various national unification organizations giving the qualitative characteristics of some of the most important materials, steel and pig-iron and cast-iron in particular; this information will be useful to manufacturers in determining what material to use for each part, and they can then guarantee to the consumer that the material employed conforms to the required standard.

POST-WAR PROBLEMS OF BULGARIAN AGRICULTURE

(Submitted by authorities Bulgarian)

I. Characteristics of agricultural property

The Bulgarian People's Republic is a mountainous country, only 46% of its territory of 110,842 square kilometers is arable land, almost all of which is private property. The state owns the greater portion of the forest tracts and the water sheds, but very little of the arable land.

The December 31st., 1946 census lists 1,094,904 privately owned farms in Bulgaria comprising 4 894.289 hectares of cultivated land. These are subdivided into lots. 12,205.949 altogether, taking the country as a whole. Each farm has an average area of 4.5 hectares divided into 11 lots of 0.4 hectares. 90% of all farms are found in or near villages and only 10% in the vicinity of towns. Rural properties account for 95% of all privately owned land, urban properties for 5%, the latter are all very small farms. It follows that typical Bulgarian farms are small, rural, and broken up into a number of lots often far distant from the farmhouses which, according to custom, are clustered in the villages.

According to the last census the Bulgarian population is 7,022,206, of which 5,291.988 live in villages and 1,730,218 in the towns. Each Bulgarian holds, on the average, 1.6 hectares of land, of which nearly 0.7 hectares are arable.

The greater part of the population is engaged in farming, and only 25% in other professions. Of the rural population 2,897,066 persons are active in agriculture 1,367,620 men, 1,369,296 women and 160,150 young people between the ages of 14 and 20. Of this number 841,707 are independent farmers, 34,961 are farm managers, 1,989,862 are helpers of the farmer who is also head of the family, 2,091 are salaried managers, 166 specialists, and 28,279 are perma-

Table 1. — *Agricultural properties in Bulgaria listed according to the amount of land under cultivation, as of December 31st, 1946*

Farm groups according to amount of land cultivated	Farms	Lots	Area	Farms	Lots	Area
	Number	Number	Hectares	%	%	%
Below 1 hectare	157,693	413,801	78,332	14.4	3.4	1.6
From 1 to 2 ha.	158,445	1,018,132	132,586	14.5	3.3	4.8
» 2 » 3 »	153,761	1,452,867	380,736	14.1	11.9	7.8
» 3 » 4 »	142,260	1.641,974	492,909	13.0	13.5	10.1
» 4 » 5 »	121,798	1,587.340	543,105	11.1	13.9	11.1
» 5 » 6 »	93,349	1,332,660	508,054	8.5	10.9	10.4
» 6 » 7 »	69,558	1,090,463	448,856	6.4	8.9	9.2
» 7 » 8 »	49,950	883,406	372,089	4.6	6.8	7.6
» 8 » 9 »	36,788	645,446	310,063	3.4	5.3	6.3
» 9 » 10 »	26,732	482,634	251,818	2.4	4.0	5.1
» 10 » 15 »	58,724	1,137,368	694,620	5.4	9.3	14.2
» 15 » 20 »	15,519	365,796	261,220	1.4	3.0	5.3
» 20 » 30 »	7,580	153,303	171,529	0.7	1.3	3.5
» 30 » 40 »	1,576	29,775	53,782	0.1	0.2	1.1
» 40 » 50 »	480	8,747	21,185	0.0	0.1	0.4
Over 50 hectares	691	12,237	73,406	0.0	0.1	1.5
Total	1,094,904	12,205,949	4,894,289	100.0	100.0	100.0

nent farm hands. These figures go to show that farming in Bulgaria is a family affair, that most of the helpers are members of the family and that there are very few hired hands. Privately owned farms in Bulgaria are very small. This can be seen by consulting Table 1.

The number of farms of 5 hectares or under is 733,957, 67% of the total number of 1,094,904. According to the new agricultural property laws (agrarian reform laws) no farmer may own a farm larger than 20 hectares. One may also see from this table that there are only 10,327 farms left having an area greater than 20 hectares. As the law is put into action this number is being reduced and will continue to diminish. Besides this the inheritance laws contribute to the break-up of large farms inasmuch as real property is divided between the heirs.

At the beginning of 1947 there were only 691 estates left of over 50 hectares in area. The breaking-up makes itself felt more especially in this group, and one may consider large, privately owned estates as a thing of the past. There were 1,249 large and medium sized farms in Dobroudja at the beginning of 1937, each having an area greater than 30 hectares. These have been liquidated almost in their entirety and the extra land incorporated into the agricultural wealth of the State and from thence passed on into the lower categories. During the past twenty years small holdings have been enriched by the distribution of 417,594 hectares to 230,211 farmers who previously held little or no arable land. 1.8 hectares have been distributed, on the average, to each family. Agrarian reform in Bulgaria was put into force in 1922, after the first world war ; the present distribution of the land may be seen on Table 2.

One may say that at the present time only small farms are left in Bulgaria. The following are the typical characteristics of these farms :

(1) The fields are away from the farmhouse, sometimes at a great distance, and are broken up into small lots which are scattered about the countryside.

(2) Farming is handicapped by the excessive amount of livestock and primitive methods of cultivation ; a further burden is the excessive number of farm hands whose labour cannot be absorbed elsewhere.

(3) Farming methods are necessarily primitive since the fields are both small and scattered and so render impossible the use of modern equipment.

TABLE 2. — *Families and organizations having received land under the farm property labour and production laws and refugees settled in villages, together with the amount of land distributed per year.*

Year	Families in receipt of land	
	Number of families	Area in hectares
1927	3,706	5,516
1928	5,590	10,717
1929	34,070	50,121
1930	16,739	26,817
1935	424	506
1936	3,675	3,816
1937	10,275	10,132
1938	7,812	9,513
1939	10,326	11,074
1940	8,141	9,546
1941	23,682	60,110
1942	21,939	45,632
1943	23,304	32,811
1944	9,443	11,164
1945	6,032	6,160
1946	25,288	26,160
1947	8,010	12,001
Total	218,564	331,806
Less Macedonia	20,245	46,312
Remainder	198,211	285,594
Refugees in receipt of land	32,000	132,000
Final total	230,211	417,594

Note 1: In 1931 land distribution was suspended until 1935.

Note 2: In the statistics for 1942, 1943 and 1944 the 20,245 families in Macedonia which were given 46,312 hectares are included.

Note 3 : During this same period 1,196 hectares were distributed among 6,342 families and 10,800 hectares among 2,500 village organizations. 32,000 refugee families were given 132,000 hectares according to the provisions of the resettlement law for refugees.

(4) It is difficult to undertake improvement of the arable land since it is useless to do it field by field and the farmers are either unable or unwilling to collaborate in an all-over programme.

(5) Fertilizers are little used; the manure stays on the pastures or in the stables and it is hard to move it to out-lying fields; often straw and dung take the place of wood as fuel and there is no modern equipment for the care and storage of manure.

(6) No survey has been made and land is held under the usual double system so that, almost automatically, certain fields are sown in the spring and others in the autumn regardless of the suitability of the soil to the type of seed.

(7) The seeds are exposed to the depredations of bird and beast while the plants which survive to maturity are at the mercy of marauders.

(8) It is a hard struggle, what with insect pests and parasites of all kinds, and one that must be fought by all.

The typical Bulgarian farm is thus run on such primitive lines that it gives a minimum yield.

II. Sowing and harvesting

The amount of sowing done in Bulgaria in 1946 and its yield is shown on Table 3.

Table 3. — *Area sown or planted in* 1946 *together with the average yield*

Plant	Area in hectares	Average yield per hectare
1. Wheat	1,524,600	1,200 kg.
2. Rye	204,300	1,040 »
3. Mixture	49,614	1,021 »
4. Barley	224,200	1,210 »
5. Rice	7,400	2,000 »
6. Oats	168,200	890 »
7. Indian corn	790,300	610 »
8. Millet	5,900	620 »
9. Beans	128,900	380 »
10. Lentils	6,500	450 »
11. Peas	12,200	680 »
12. Jambette	16,400	570 »
13. Sunflower seeds	186,500	540 »
14. Potatoes	24,300	3,890 »
15. Vegetables	43,700	18,500 »
16. Sugar beet	25,300	7,300 »
17. Tobacco	72,100	650 »
18. Flax	1,400	700 stalks
19. Hemp	9,600	2,000 »
20. Cotton	41,500	100 kg.
21. Fodder	306,900	2,500 »
22. Vineyards	156,700	3,440 »
23. Roses	3,600	1,910 blooms
24. Mulberries	250	6,000 leaves

One sees by this table that the yield is very low. The 1946 autumn sowing gave a normal yield but the harvest from the spring sowing was very light on account of the drought that year. Under normal climatic conditions the average yield for winter grain -wheat, rye and barley- is between 1,200 and 1,300 kilograms per hectare, and for maize from 1,300 to 1,500 kgs. per hectare.

III. Yield improvement plans.

The low yields are due to bad economic organization and poor farming technique, above all to shallow cultivation and light fertilizing.

For these reasons the State, in its bi-annual economic plan, has recommended the following techniques for the improvement of agriculture :

(1) *Ploughing after the harvest-* to retain the humidity of the soil, to aid the decomposition of organic material, to destroy weeds and plant parasites.

(2) *Deep ploughing in the autumn-* to ensure that winter moisture be conserved against spring sowings which often suffer from droughts.

(3) *Planting new and improved seeds-* to give a higher yield than that possible with old, inbred seeds.

(4) *Cleaning the machinery used in planting-* to rid it of all weeds and plant germs, particularly of the wide-spread cereal parasites.

(5) *Selecting the proper planting time-* to ensure getting the autumn planting finished by October 20th, and getting the spring planting done as early as possible to avoid the summer heat which starts in mid-July and does much damage.

(6) *Regular planting-* of cereals in autumn as well as in spring. Regular planting ensures a higher yield and at the same time saves 30% of the seed.

(7) *Feeding the plants-* with manure and chemical fertilizers. To this end 20,000 modern compost heaps are going to be built. A considerable amount of chemical fertilizers are imported and a factory for the production of 50,000,000 kgs. of artificial fertilizers is under construction.

(8) *Cleaning the fields-* of plant parasites, weeds and stones, harrowing and manuring them, with the object of improving the pasture as the livestock are perpetually undernourished on account of the poor and dry climate.

IV. Co-operative farms

The reorganization of farm property on a co-operative basis has been started over and above the technical measures being taken for the improvement of agriculture. Originally an organization was founded for the co-operative distribution of farm labour, this has been superseded by co-operative farms proper. These farms were founded up till 1945 on the basis of the 1911 law for co-operative associations. Special co-operative farm laws were enacted in 1945, their fundamental principles are as follows :

(*a*) The formation of farms of an area from 200 to 500 hectares each.

(*b*) Equipment of these farms with modern agricultural machinery ; especially tractors, sowers, ploughing machines, harvesters etc.

(*c*) The introduction of regular crop rotation.

(*d*) Thorough and timely soil feeding with both natural and artificial fertilizers.

(*e*) Providing each farm with livestock ; sheep, pigs, horses, poultry etc.

(*f*) The introduction of new seeds to improve the yield.

(*g*) The permanent improvement of the land by means of irrigation to combat damage done by periodic droughts.

The first co-operative farms were founded in 1938 in the following villages : Totlebene, Ovtcha-moguila, Steguerov and Varbovka in the Plevene region, by the Regional Chamber of Agriculture. These farms have given good results. The number of co-operative farms has increased very rapidly since the enactment of the co-operative farm laws as will be seen by the following figures :

Year	Farms	Workers	Hectares of land
1938.	4	380	1,200
1944.	50	7,000	26,000
1946.	480	41,000	172,600
1947.	543	43,827	183,700

The number of members of farm co-operatives is ever on the increase as the peasants are convinced of the advantages of working with modern equipment and of the economy of both labour and expense derived from the co-operative system. Farm labourers on co-operative farms earn almost double that earned by workers on privately owned farms.

Under the agrarian reform laws, along with the establishment of co-operative farms, 25 tractor service stations have been organized to help with the soil improvement and cultivation programme. These stations serve the co-operative farms in their neighbourhood.

V. Dams

Another great step in the reconstruction of Bulgarian agriculture is the erection of dams of which 12, both large and small, are under construction and will eventually serve to irrigate 300,000 hectares of arable land. In Bulgaria drought is one of the reasons for the poor crop yield and that is why work on an irrigation network is being pushed forward. The dams will also provide cheap electricity for home use on the farms and power for agricultural machinery.

VI. Animal husbandry

The wealth of the country derived from animal husbandry has been sharply cut into by war, and by three consecutive years of drought as one may see from the following figures :

Type of Animal	No. in 1934	No. in 1946	Drop over 12 yr. period
Horses.	531,519	499,217	32,302
Cattle	1,497,624	1,439,742	57,882
Water buffalo. . . .	374,977	280,607	94,370
Sheep	8,839,492	7,982,204	857,288
Goats	913,088	862,582	50,506
Pigs	901,976	718,751	183,225
Poultry	12,772,740	6,398,917	6,373,823

This drop in the amount of livestock has obliged the government to take certain measures for its increase both in quantity and

productivity of which the more important are as follows :

(1) To bolster up the production of fodder and more especially of lucerne, of clover, and of beets.

(2) To establish animal husbandry centres attached to the co-operatives and to widen services rendered in this field to cooperative farms.

(3) To increase the birth rate by means of artificial insemination.

VII. Wine industry

There are 156,700 hectares of vineyards in Bulgaria of which 50,000 produce grapes for the table and the remainder for wine. The annual production approaches 600,000,000 kgs. of grapes of which 450,000,000 go into wine and 150,000,000 are for the table. In a normal year Bulgaria yields 2,500,000 hectolitres of wine. 56,000,000 kgs. of table grapes are exported along with 300,000 hectolitres of wine. The last few years this yield has been seriously hurt by drought and the frost of this year will reduce the normal yield by a third.

A government monopoly on wine and spirits was introduced in 1947.

VIII. Orchards.

In 1934 orchards covered an area of 21, 318 hectares, by 1940 this had been increased to 52, 521 hectares, in 1947 60,000 hectares had been reached. Fruit production is inexorably bound to such vagaries of the climate as drought, frost, hail etc. That may be seen by the figures on fruit production, 69,985,700 kgs. in 1934, whereas in 1940, on an area twice as large, only yielded 61,143,400 kgs. This year an April frost nipped the blossom and there will be little fruit, but in normal years Bulgaria exports a fair amount of both fresh and dried fruits and fruit pulp to Central Europe.

IX. Rose gardens

The Kazanlak valley, along the river Toundja and between the Stara-Planina and Stredna-gora mountains, is highly suitable for rose-growing. In the months of May and June there is the right amount of heat and humidity and the temperature variations are very slight. Roses bloom towards the end of May and under these conditions yield a high percentage of oil of roses. Formerly the rose gardens covered 7,000 hectares but this area has been reduced partly because of political events and partly for lack of marketing outlets for oil of roses. In normal times Bulgaria used to produce 2,500 to 3,000 kgs. of their world-famous oil of roses.

BELGIAN HORSES IN ITALY

There is no doubt that the Belgian draft horse existed in Italy many centuries ago for there are many monuments in the Roman Empire period with horses of this breed, perhaps not with the same body conformation of the present Belgian type but certainly with all the characteristics of the breed.

Imported Horse

The Romans first knew the Belgian horse after they occupied Belgian Gaul and imported the horses of this breed into Italy, where they were used for draft purposes and for pulling heavy wagons.

Julius Cesar repeatedly praised the qualities of this breed of horse, especially for its resistance to fatigue. Horace and Apuleius praised the Belgian horse, and it must have been considered the highest expression of hypotechnic evolution if this breed obtained the admiration and praise of all the poets and sculptors.

However, owing to the continuous invasions and the political disorder of the Peninsula this breed did not remain for a long time in Italy, especially because of the decline in agriculture.

It was during the Franks' domination of Italy that the production of heavy Belgian draft horses once again developed and increased, especially in the low plain of Lombardy where there were large concentrations of Franks. It is well known that Pavia was chosen as the capital of the Frank Realm and in the area of Cremona, Pavia and Mantova this breed found the best conditions for its existence and propagation.

In 1872 Italy, for the purpose of improving her horse production, took steps to provide government studs with high quality stallions and in 1876 laid down that the Ministry of Agriculture keep a genealogical book of purebreds and records of the foundation stock of the halfbreeds. This proves that Italy was concerned with the problem of producing good horses in order to statisfy her need. The goal of producing good draft horses could be attained only through proper selection of outstanding animals and in making the greatest possible use of them.

Aware, that to carry out this program it was necessary to encourage the breeders by granting sums of money, the Italian Government established prizes to breeders for their best horses at exhibitions and gave good prices when purchasing them.

In 1887, always for the purpose of producing better horses, the Italian Government ruled that the stallions to be used in public studs required prior approval by qualified horse experts. Since that time, the Italian Government has taken measures to carry out the improvement program, as well as to establish more attractive prizes and grant sums of money for subsidizing the purchase of stallions destined for public use.

The Belgian horse is popular in Northern Italy because of its tenacity and patience in working, its docile temperament and because it is easily handled. It is a good breeder and is rated as an easy keeper. It has an efficient long life period and maintains its value well even at an old age. The animal is heavy muscled and is very useful to pull big loads, especially the two wheeled bulky carts in the Po Valley, as well as to carry out heavy field work.

Imported Horse

The Belgian stallions have been valuable in improving the draft conformation of some of the local Italian stock, particularly when mated with rangy, loosely coupled mares. The breed has made wonderful progress in Italy.

The Belgian horses are well adapted to the climate of Northern Italy and of the Po Valley. Many competent agriculture livestock men have stated that the Belgian horse is one of the most useful breeds in that area.

The Provinces of Cremona, Brescia, Mantova and Piacenza represent the area where the greatest number of the Belgian horses are produced and also the area most interested in the improvement of the breed.

There are eight Government studs in Italy which are located at Crema, Reggio Emilia, Ferrara, Pisa, Santa Maria Capua Vetere, Catania, Ozieri, Foggia. Three of these studs (Crema, Reggio Emilia and Ferrara) have always specialized in the production of Belgian horses. All these studs have been under the Ministry of Agriculture since 1866. From these centres the stallions are sent to breeding stations in various Communes to serve individual producers.

Horses have always furnished an important supply of farm power in Italy. It has been estimated that the Italian farmer derives nearly 90 % of his farm power from draft animals (oxen, horses, mules and asses) whose number was reduced by 15 % during the war.

Most of the horses are found in small groups or herds. In the 1942 census, as a matter of fact, 79.8 % of the herds were of one horse and 12.9 % of two horses, these two groups representing 72.1 % of the total population. This particular condition is the same in the whole country, with no important difference from one region to the other. In Central Italy there exists the highest percentage of herds with more than twenty horses.

There has been a natural decline in the Italian population of horses from the beginning of the present century. Automobiles, tractors and trucks have replaced some of the horses. In addition, the horse population, like other livestock population, suffered heavily during the last war period because of army requisition, feed shortage, dislocation and other causes.

All the armies that occupied Italy requisitioned horses and mules to carry out military operations. The horses and mules used in military operations suffered a large number of casualties and injuries.

Although Italy benefited from the release by the Allied Armies of a large number of captured animals or from the sale of Allied Military horses and mules, the present population should be increased or there should be more mechanization in order to carry out all farm operations timely and efficiently.

Before the war, studs were staffed by military personnel but this Service, as stated

above, formed part of the Ministry of Agriculture and possessed a large number of stallions for the use of Italian farmers. During the war period these institutions were demilitarized and put under civilian management. The deposit lost a large number of stallions through theft and on account of military operations; in addition it was not possible to secure sufficient supplies of hay and grain to feed the stallions properly. The system of distributing stallions during the breeding season to Communes and keeping records, as well as replacing old and unserviceable animals, was impossible to carry out during the war period.

For the purpose of trying to rehabilitate agriculture, UNRRA undertook an import program which was designed to bring in a few high quality young Belgian stallions and mares to help to make up for some of the deficiencies of the heavy draft horse population. It was intended that the stallions should replace some of those which had been lost during the war and some of the unserviceable ones. A number of pedigree mares were also brought in to produce high quality colts to be used as a basis for breed improvement. All these animals were inspected and approved prior to their purchase by Italian livestock specialists who went to Belgium for the specific purpose of selecting the horses. A group of 42 stallions and 43 mares arrived at Crema from Belgium on 8th. March 1947. They came from the farms of Albert Reintjens and Antoine Delepine which are two of the best horse farms in Belgium, and a study of their pedigrees proved their good ancestry. They were all good quality, young animals, varying from 2 ½ years to 6 ½ years, most of them being in the 4 years old group. The Italians were well pleased with these animals.

Some of the mares were pregnant and 15 colts were born this past spring.

The Belgian horses were distributed as follows:

32 stallions to Italian Government studs (Crema, Reggio Emilia and Ferrara) free of all cost and 10 stallions at a reasonable price to specially selected breeders. All of the mares were distributed at a low price to outstanding breeders of Belgian horses according to a special contract. Each breeder signed the livestock improvement contract prior to receiving the imported animals and before taking possession of them.

The contract was drawn up between the Provincial Inspector of Agriculture or the Director of the studs representing the Ministry of Agriculture and the private breeder receiving the animals. The principal terms of the contract stated that the private breeder is not permitted to sell the horses for a period of 5 years, unless the animal, because of disease or other causes, becomes unsuitable for breeding purposes. The animals are to be used for breed improvement work and they were assigned to the best farms, selected by the Provincial Inspectors, which were willing to co-operate. Selected offspring from imported animals, which are desired for the stallion deposits or for further breed improvement work of the Ministry of Agriculture, will be made available from the offspring of the imported animals.

The selection of offspring will be made by a livestock breeders improvement committee and fair prices will be established for them. Penalties for failure to carry out the contract consists of barring the breeder from further breed improvement work plus a monetary fine.

This improvement programme which was undertaken by UNRRA in cooperation with the Ministry of Agriculture is the beginning of a long term improvement program from which Italian agriculture will greatly benefit.

ITEMS OF INFORMATION

NUTRITION

The European dairy problem

The European dairy probem, one of the most urgent and difficult, should be considered both from an agricultural and nutritional point of view.

It is a very complex problem which has some specifically European aspects and others which can only be solved on a global scale.

The fundamental European problem is to increase the potential dairy production : all European efforts must be bent towards a general and quantitative production of high-quality milk, this is the essential basis of any policy aimed at improving human nutrition and fighting systematically against infant mortality.

It is for this reason that all efforts and all hopes are at present directed towards the dairy industry ; through it European agriculture can be put back on a solid basis and the population, largely weakened and undernourished, can obtain *milk*, that primary and most necessary food.

This task, which devolves on the European dairy industry, was already clearly foreseen by the FAO in their programme. To this end, and in response to a desire expressed at the Meeting of the National European Committees, the, Temporary Bureau in Europe of FAO convened a small meeting of dairy experts at the Hague on the 19th of May (to which the International Dairy Federation, FIL, was invited and sent a delegate). These experts met to discuss certain dairy problems in general, and that of increasing the consumption of raw milk in particular, which required prompt joint action on the part of several European countries.

The first preoccupation of the dairy industry experts was to increase milk production as rapidly and rationally as possible. They noted that it was not only the destruction of of dairy cattle, very heavy in certain countries, which hindered the rapid increase of milk production, but above all *the lack of high-protein feedingstuffs* which are the main limiting factors in milk production. If before the war, the European production of fodder were insufficient for the actual needs of a great many countries, it was easy to fill the gap by imports which are now hard to obtain. Immediate action is required to obtain, and provide means for storing, a good stock of high quality fodder, as this is both important and necessary ; one must also bear in mind the whole question of grasslands and grass drying, this latter involves certain difficulties such as the special position of small farmers and the lack of motor fuel.

In so far as the uses of milk are concerned, its consumption in the liquid form is of prime importance. Dairy and nutritional experts agree that the consumption of *fresh milk* must be encouraged as much as possible.

They estimate that the amount of milk now produced, and consumed in its liquid form in Europe can be greatly increased, not only as compared to present figures but even with reference to pre-war ones.

This increase is, of course, closely linked to a prior improvement in the quality and cleanliness of liquid fresh milk ; the dairy problem is even more *qualitative* than *quantitative*, and on this score dairy experts and nutritionists think alike.

Payment to producers based on the cleanliness of their milk and the richness of its content is an essential requirement among those considered to encourage the production of high quality milk.

Any policy aiming at the improvement of quality in milk and its increased consumption is closely linked to the *price* factor and must be based on the payment of a fair price to producers ; production should be encouraged and measures taken to avoid any wide gap between the production and selling price of milk.

Because of its high food value the consumption of milk by vulnerable groups, children of school age, workers, etc., as well as by all sections of the population, should be encouraged.

A deeper study of European needs should consider appropriate and effective methods of propaganda ; these should be based on the statistics concerning principally the amount of milk and milk products and their present consumption, as well as prospective production and consumption in the near future.

Experts have stressed the *teaching and technological training of dairy personnel* and have particularly recommended teaching the food value of milk and milk products to schoolgirls while they are still in school.

The production of liquid milk is the key European problem *now*, but there are many other aspects to the complex milk problem, especially that of other uses for milk.

In some countries the increase in liquid milk consumption is closely linked to another problem, that of *butter production*. This production cannot be reduced with impunity unless the export and import agreements with other countries make up for the cut. Nor can the nutritional problem be solved by replacing butter by margarine, even that fortified with vitamins A and D, as no conclusions have yet been reached through margarine research as to whether its calorie and vitamin content is the equal of butter ; the differences in the composition of the fatty acids in these two products must form the subject of further research.

New and interesting aspects of the European butter industry have been brought to light partly by changes in the international marketing of this product and partly by the new tendency towards a certain measure of coordinated effort in the production of all fats, including margarine.

The present high level at which butter production must be kept in certain European countries necessitates a fresh examination of the uses of its by-products which must not be deviated from human consumption. These by-products can be conveniently used in the manufacture of certain cheeses and dry products such as powdered skim milk.

The recommendations and conclusions of this Report, taken altogether, show what importance dairy experts attach to the European dairy problem, a dominant factor in European agriculture and nutrition. The best safety-measures and guarantee for the future of European agriculture, for better and more rational nutrition, lie in a successful solution of this problem which is based equally on the increase of production and consumption.

News from Austria

The first estimates of this year's harvest of bread grains assessed the prospective yield at about 600,000 metric tons ; as, however, the areas under cultivation were affected to a considerable extent by the winter, which was the most severe experienced in Austria within living memory, and by droughts and diseases, there can be, in experts' opinion, no question of a normal harvest in the main cereal districts. On the contrary, everything seems to indicate that the delivery quotas will hardly be attained, especially as the price situation is not quite clear. The stop of prices for a period of three months made some farmers hold back their deliveries in the hope of getting better prices later. Harvesting and threshing operations are being delayed through lack of transport, fuel and manpower, which may even hold up the autumn ploughing.

A new regulation for the delivery of agricultural produce was issued recently (Federal Gazette for the Austrian Republic of July 25, 1947, No. 128). It applies to all kinds of cereals, potatoes, cows' milk, meat, eggs and fruit. Every agricultural producer has to deliver the determined quota to a licensed buyer within the prescribed period ; any surplus may be used in the producer's household, or otherwise is also to be delivered to the licensed buyer ; in this case, in addition to the usual price, a premium will be granted. If the producer is not able to deliver his quota, he may, with the consent of the authorities, fulfil the requirements made of him by supplying a larger quantity of a produce non-liable to obligatory deliveries, but of equivalent or higher calorific and nutritive value. Bread grain suitable for human consumption is not to be used as fodder.

Everywhere is abundant evidence of the cumulative effect which constant cropping without fertilizers is having on the arable land of Austria. The decimation of livestock holdings — especially in Eastern Provinces — tends to increase the starvation of the soil through lack of natural fertilizer. The rehabilitation of such land will take a considerable number of years even with an ample supply of artificial and natural fertilizers.

Nun-Moth infestation endangered about 30,000 hectares of forest which is at the same time the centre of the catchment area of the water supply for Vienna. A control station was set up in Wildalpen and all efforts are being made to overcome the danger.

The food situation is far from satisfactory ; in Vienna in August 1947 the calorie value of the average daily diet for normal consumers amounted to 1,583. Normal consumers did not receive any milk ; small rations of fresh whole milk were reserved for children up to six years of age, expectant and nursing mothers, sick people, workers doing dangerous work and chemical workers ; skimmed milk being allocated to children and young people between 6 and 18 years of age and to old people over 70. Between August 11th and the end of the month there was no call-up for vegetables.

The milling extraction rate is 95 % for wheat and rye, and 82 % for barley.

Austria asked to be admitted to FAO and was formally accepted as member at the Geneva Annual Conference in August 1947.

Short news items

Flour treated with nitrogen trichloride ("Agene" process) in amounts greatly in excess of those used normally in milling practice, when fed to dogs, may produce canine hysteria. The tests carried out by the Research Association of British Flour Millers have however shown that only dogs are affected. Human beings, especially, are not subject to any diseases after eating meals prepared with flour treated with "Agene". Further research is in progress.

* * *

Answering a question in the House of Commons, the British Minister of Food, Mr. Strachey, said that all travellers entering England were allowed to bring with them 25 lbs. of food, of which not more than 5 lbs. might be of any one kind. He did not see any reason why this concession should be changed for the foreign competitors at next year's Olympic Games.

* * *

The Technical Institute for Refrigeration (Kältetechnisches Institut) in Karlsruhe, Germany, which was headed by world-famous late Professor Dr. Plank, has convened a meeting of Bi-zonal Food Administrators and experts to deal with some specific problems. In particular, an Expert Standardization Committee was set up to eliminate the waste of materials ; the development of the deep freezing industry was also under consideration.

* * *

An Exhibition of the Food Canning Industry opened at Parma, Italy on 7th September 1947 ; at the same time, a Conference of the International Committee on Food Preservation was held there.

AGRICULTURE

Maize cultivation and hybridization in Austria

Extracts froom a lecture given by Dr. Ing. A. Buchinger *(of the Federal Bureau for Plant Cultivation and Seed Control, Vienna, Austria).*

In Austria, the kernels of maize are used for human consumption as well as for swine and poultry fodder. In the former case fully ripened kernels are finely ground and used as a substitute for wheat flour, more rarely the milky kernels of sugar maize are left on the cob, which is then cooked whole.

If maize is used either alone or as the fodder base — whole or ground, raw or in mash — it has a deleterious effect on the quality of both meat and fat (the resulting lard, for example, is too oily) so that other types of fodder should be mixed with it. Green maize (Silo or green fodder maize) is a very sought-after milk-producing fodder.

The high temperature requirements of maize cultivation have limited its diffusion. The yearly average air temperature for maize growing regions in Austria is 9 degrees Centigrade. The more modest humidity requirements of maize are not to be compared with the temperature demands. The east and north-east part of the East Austrian maize growing region has a yearly average rainfall of 500 mm. and under ; the southwestern and western parts of this section have a rainfall of 1,000 mm. and over. The height above sea level of the maize growing regions varies. While those in the low eastern section lie at only 140 m. above the sea, those in the Alpine valleys are as high as 1,000 m. From a climatic point of view the extent of the maize growing region could be some-

what increased. Green maize has not such stringent growing requirements and the extent of the growing region could be tripled.

The average area of maize planting for the last ten years of peace in Austria was 60,000 hectares (3 % of the total arable land), and about one sixth of that area under rye. One must add to this figure 20,000 hectares under green maize (mainly Silo maize and green maize fodder). There is little hope of an increase in the maize growing area in the near future. In fact the area under green maize shows a sharp decline, and a substantial drop in the area under Silo maize is to be expected very shortly.

The provinces carrying the heaviest maize plantings are as follows :

Styria 20,000 ha. (about 9 % of the total arable land) ;

Lower Austria 18,700 ha. (about 2 % of the total arable land) ;

Burgenland 16,000 ha. (about 9 % of the total arable land) ;

Carinthia 4,000 ha. (about 3 % of the total arable land) ;

Vienna 300 ha. (about 3 % of the total arable land) ;

Tyrol 1,700 ha. (about 3 % of the total arable land) ;

Vorarlberg 300 ha. (about 16 % of the total arable land).

The first five provinces are included in the eastern maize growing region, the two last in the western.

The area of green maize (Silo) cultivation is divided between Lower Austria with 14,000 ha., Burgenland with 4,000 ha. and Styria with 1,000 ha.

The crop yield varies greatly on account of the extremely unequal rainfall. The average yield of maize per hectare is 2,000 kg. for the whole of Austria, in the western part it is 2,600 kg. and in many districts it rises to an average of 4,000 kg. Statistics show that twenty years ago the average yield in the best areas was a third, and in the worst areas a fourth of what it is to-day. This improvement is due in the main to the effects of hybridization of seed corn.

From early days until quite recently the principal varieties in Austria were all of the « Rundmais » type. This type usually produced golden kernels, more seldom white or red kernels. We find both large and small kerneled strains. The kernel count per cob and the shape of the cob also differ. Under this generic name of hybrid « Rundmais » several varieties exist which yield both maize and green maize and are considered good all purpose types.

More than one variety is required in Austria on account of its widely varied growing areas. Long before 1900, efforts were being made to improve the quality of the seed. Ears are selected for seedcorn from the finest and most healthy plants. From those ears cobs are selected showing these particular characteristics : outstanding kernel count, shape of cob, colour of kernels, size of of kernel and, above all, quality. The presence of a miller is desirable so that the quality of the different strains may be better judged.

Later a yearly individual plant selection was made with progeny testing and pedigree breeding. Crossbreeding was started in recent years. Plants bearing only one or two ears are specially sought after. Noteworthy diseases and parasites have not yet been considered.

In Austria until 1938 there were 5 varieties of maize of which one was a dent maize, and 4 maize breeding stations. To-day there are altogether 12 hybrid producers and a total of 16 varieties. This number is far too high. To enter a hybrid in the official Austrian Hybrid Register it must first undergo very severe official tests. For this reason one may expect that growers will give much thought and take great pains to produce high quality hybrids. When there has been a corresponding elimination of undesirable types growers will produce a sufficiently large quantity of those types suitable for Austria's needs.

The economic condition of the country requires further measures for increasing the yield of all crops. One of these measures is the adoption in maize cultivation of Heterosis. There are already two research stations under construction in Austria for this purpose, one a government station and the other an Agricultural Research Department station. At an appointed time a technician will hold a course for growers to popularise Heterosis methods of breeding. The findings of the Bergamo Seminar will furnish the main basis for this course.

The International Commission for Agricultural Industries : report on its aims and achievements

(by A. Jaubert, *Former Minister President of the International Commission for Agricultural Industries*).

The International Commission for Agricultural Industries, though made up exclusively of government delegates, owes its early origin to the persistant efforts made in Belgium by the Sugar-refineries' Technical and Chemical Association of Belgium, and in France by the Sugar-refinery, Distillery and Agricultural Industries' Chemists As-

sociation of France and her Colonies, to whom is due the foundation in 1894, at Brussels, of the International Chemistry Congresses, and in 1905, at Liège, of the International Sugar-refinery and Distillery Congresses.

A. — International Congresses.

It was at the end of the Congress held in Paris in March 1934 that the statutes of the International Commission for Agricultural Industries were formulated with the prime object of obtaining greater regularity and effectiveness for international assemblies of this type than had been the case in the past.

This was not a vain hope. Brussels in 1935, Scheveningen in 1937, Budapest in 1939, in turn welcomed the delegates of the Food and Agricultural Industries whose labours provide the material to-day of twelve stout octavo volumes.

The war, however, temporarily halted this progress. The VIIth International Congress which was to have been held in Rome in 1941 had to be adjourned *sine die*. At the kind invitation of the French Government it has been convened in Paris where it will be held in 1948 from July 12th to 18th.

It may well be said of the work of these Congresses that it shows greater uniformity than is usually found in such a field and that this result is due to the constant activity of the C.I.I.A. (Commission Internationale des Industries Agricoles), mainly by means of priority questions and the information thereby elicited, in following up certain essential problems from one Congress to another industry.

B. — Publications.

1) *The International review of Agricultural Industries.*

The International Commission for Agricultural Industries, alongside its efforts in the Congress field, has also branched out into publishing. The first result of this new activity was the founding in July 1939 at the Budapest Congress of an analytical review dedicated to the biological industries and entitled : " The International Review of Agricultural Industries ".

During the war, thanks to a Secretariat situated in Geneva and some make-shift means, this publication was able to avoid German domination and, after a few months, to continue to appear to the extent of some 7,000 pages containing 30,000 digests of which nearly 3,000 were of full-length works.

2) *The International Reference Table for the cultivation of plants useful in industry, animal husbandry, agricultural, food and biological industries.*

Since November 1946 the C.I.I.A has undertaken to complete the work of "The International Review of Agricultural Industries ", which only gives a selection of digests, through a weekly publication in which will appear, systematically classified and in their original tongue, the titles of all articles in its field which are published in any of the 2,000 periodicals received by its library. In this way stock is taken every week of all the publications acquired during the previous week with the result that 15,000 articles have been brought to attention during the past 6 months.

3) *Agricultural and food industries.*

This is, practically speaking, a new publication brought about by the fusion of three earlier and inter-related ones, namely : " The General Food Review ", previously published by the C.I.I.A., "The Bulletin of the Chemists' Association ", " Agriculture and Industry ".

This Review publishes, in a 21 × 50 cm. format, original studies on subjects of interest to Agricultural Industries, general information and specialized information, mainly professional or economic, peculiar to each industry.

4) *Other publications.*

" Analytic bulletin of French patents ", " Analytic selection of American patents " of interest to Agriculture and to Biological Industries, " International Encyclopedia of Agricultural Industries ", etc. make up, together with a six language (German, English, Spanish, French, Italian, Russian) vocabulary of terms used by various agricultural industries, an equally important part of the work of the C.I.I.A.

C. — Microfilm.

In 1938 the C.I.I.A. started in Paris the first French microfilm Centre. This Centre at present puts out about 50,000 reproductions a month. It is also equipped to do all current photographic work (photocopies, pathélith, etc...). Lastly it should be noted that *this is the only Centre at the moment which has the equipment for producing micro-filing cards in transparent holders.*

Research carried on there has resulted in a certain number of improvements in microfilm technique. Patents have been taken out, principally in relation to reading apparatus and to a printing device for microfilm positives.

D. — Publication centre.

The different types of work which we have listed above find their ultimate destination in the Publication Centre which is the clearing house not only for all publications sponsored by the C.I.I.A. itself but also for those coming from all other sources.

The Centre furnishes on request bibliographic notes on all subjects in its field, it does research, makes all translations and furnishes in photographic form the corresponding original texts.

Conclusion.

One may therefore state that the International Commission for Agricultural Industries has perfected a coherent system whereby all topical publications on the subject, sytematically classified, are readily usable. These publications cover the whole field of biological industries (agricultural and food industries, microbiology) as well as such auxiliary agricultural industries as the production of farm implements, fertilizer and anti-parasite industries, which are linked, to a certain extent, to the study of agriculture and animal husbandry, which is the source of raw material for all the biological industries, which cannot ignore them, and to whom their intellectual evolution and their professional duties have given the preparation necessary to gather these teachings.

The restoration of flooded territory in Belgium

(*Information from the Pedological Station of the University of Louvain*).

In 1944 the German occupation authorities flooded about twenty-five thousand hectares of the most fertile Belgian territory. As a result the farmers were forcibly evacuated, farm buildings and stock were indescribably damaged and, lastly, all crops were destroyed.

Attempts were made to drain the flooded fields as quickly as possible when the country was liberated, and the impossible was achieved by the use of canals normally employed to regulate the level of watercourses. Thus ended the first phase of this pointless act of destruction.

The first thought of the distressed Belgian farmers was to recondition the wrecked or choked-up ditches so that the fields might be sufficiently dried to permit ploughing. The farmers felt almost hopeless, or at least very pessimistic, before the struggle which they had to wage against the evil effects caused by the flooding of their land.

The Belgian Pedological Service understood the gravity of the problem confronting the farmers and did not hesitate to offer them its help. Peasants of flooded regions could have their soil analysed free of charge, thanks to the cooperation of the Ministry for Agriculture. The acidity, humidity and the type of salt and its concentration were determined. Thus the farmer could ascertain to what degree his land had been injured by flooding. About 3,000 bulletins were issued to interested persons, which shows how popular these analyses were with the farmers.

Much emphasis was laid on the injurious effect common salt, remaining in the soil, had on the germination and growing power of plants. It was advised, as a precautionary measure, not to work the soil in depth.

The rainy winters of 1944-45 and 1945-46 so lowered the chlorine content of the flooded lands that to-day it is no longer possible to speak of the damaging effect of chlorine on plants. At first, in the Polders region, the salt concentration was fairly high so that temporarily the soil had a fairly good structure. But as the chlorine disappeared so the sodium left was leached out. The immediate result was the breakdown of the good tacky consistency absolutely necessary to the heavy clay soil of the Polder region.

Immediately after the first rains the soil of the Polders region breaks down, becomes excessively muddy and impassable for livestock or agricultural machinery. The harvests in most cases are much lighter than pre-war ones, this is especially true where the soil is heavy, the flood waters having contained a high concentration of salt. Deep ploughing of the land, after draining, increases in many cases the evil effects of the flooding.

The Pedological Station of the University of Louvain, supported by the Institute for the encouragement of Scientific Research in Industry and Agriculture (I. R. S. I. A.), had provided dozens of experimental fields with the aim of discovering the best means for restoring deteriorated land to its original state.

This aim has been fully achieved and we may set farmers' minds at rest by assuring them that their fields will soon regain their fertility if the instructions given by our Pedological Station are carried out and if the necessary means of improvement are available.

We may sum up the instructions given and the results obtained :

1) The use of gypsum, of calcium chloride and sometimes of ordinary lime.

2) Careful ploughing, as shallow as possible, choosing a time when the soil is neither too dry nor too wet.

3) Heavy fertilizing, especially with nitrates.

Any farmer following these instructions can quickly recondition his land. The Pedological Station by these practical and readily available means has made a great contribution to the restoration of the flooded Polders region. And should the scourge of sea-water floods fall once more on these agricultural regions the means of counteracting the effects of salt-water will be known.

News from Czechoslovakia

O A survey by the State Statistical Bureau of Czechoslovakia states that the crops in Czech lands are considerably inferior to those of 1946. The wheat crop is 25 %, and barley 35 % below normal. The root crops are poorer, also, than in normal years. With regard to hops, it is estimated that the crop will be 10 % better than normal; only sporadic appearance of Perenospora was reported. Forage crops are generally bad and 25-50 % under normal. At the close of July, harvesting of autumn-sown rye, wheat and barley had been generally completed and threshing operations are under way. The yield of these crops is estimated to be at least 25 % below normal; a considerable shortage of straw is being felt. In Slovakia the droughts and floods have caused great damage to the crops. Approximately 100,000 hectares of land have been affected.

O Owing to forage shortage, cattle are being sold for meat. The Farmers' Union was authorized to make arrangements for replacing good milk-yielding cows sent to slaughter-houses by poor animals so that the former might be saved for dairy purposes.

O A new regulation on livestock deliveries was issued which aims at safeguarding in this respect the provisions of the Two-year Plan. To the end of December, 1947 deliveries of cattle are to be 8 % higher for every hectare of agricultural land than quotas for 1946-47.

O An appeal was issued to all farmers with a view to safeguarding the hay; even bad quality hay is to be harvested, if only for bedding purposes. The Management of State Forests was directed to help farmers with dry leaves and hay from the forests.

O In the first four months of the Two-Year Plan, i.e. from January to April 1947, only 85.5 % of the planned milk deliveries could be effected; the milk deliveries are now reported to be increasing. Fulfilment of the Two-Year Plan is, however, reported with regard to eggs, three million having been put into cold storage and in water-glass for use in wintertime. Throughout Czechoslovakia the supplies of vegetables and fruit are very good.

O Modern equipment for food freezing has been ordered from England and the U.S.A. and a food freezing research station is to be founded in Olomouc, where there is a well-equipped freezing plant operating continuously. Cold storage plants, of capacity approximately 1,000 wagon loads, are to be set up in Prague and Tábor, in Moravia and Slovakia. They are intended to store surplus meat in periods when larger numbers of livestock are being marketed.

O The National Land Fund — an office of the Ministry of Agriculture — is extending long-term credits up to 80,000 Czechoslovak crowns (1,600 U. S. dollars) to farmers settled on confiscated agricultural land, for buying of livestock, implements and machinery, or for other investments, when the farmer has not sufficient funds of his own. Credit is being allowed for 40 years at 1 % interest and is given only against the presentation of bills for material bought or labour done for the farm.

O Precaution has been taken to prevent the Colorado beetle from spreading over from Bavaria and Saxony where it was reported. The " Farmer's Daily " has published full descriptions of the beetle and detailed directions regarding control methods.

O The mechanization of agriculture is being carried on assiduously. At the end of 1946, there were over 1,000 agricultural machinery co-operatives in Bohemia and since that time, 570 have been founded. In Slovakia out of 400 machinery co-operatives planned, 222 were set up before the end of June 1947. Funds have been made available for training tractor drivers. The tractors are being supplied to agricultural co-operatives which handle the distribution to farmers.

O In 1946 Czechoslovakia exported 52,000 railway wagonloads of potatoes to the value of 280 million U. S. dollars to a large number of European states (France, Switzerland, the British and American Occupation Zones of Germany, Yougoslavia, Roumania, Bulgaria and Italy).

O On July 9th, 1947, the Czechoslovak Government delegation arrived in Moscow. Economic questions were given special attention in the ensuing negotiations. It was agreed to broaden the economic relations between the two countries and to conclude an agreement on the mutual deliveries of goods for a period of 5 years. The quotas of goods will be fixed every year by agreement of both parties. In 1948, U.S.S.R. will deliver to Czechoslovakia, first of all 200,000 tons of wheat, 200,000 tons of fodder grain and maize, 60,000 tons of potassium fertilizers, 5,000 tons of nitrogenous fertilizers, 20,000 tons of cotton, besides oil seeds, peas, lentils, wool, iron ore, manganese and chromium ores, iron alloys, phosphates, etc.

O Among other things which Czechoslovakia will deliver to the Soviet Union are rails, locomotives and other railway equipment, requirements of the crude-oil industry, equipment for sugarmaking and shoemaking industries, machine tools, electromotors, excavators, small electric power plants, locomobiles, breeding cattle, sugar, footwear, textile goods, for which it is expected that the U.S.S.R. will place its orders for the whole period of the 5 year agreement.

O The Czechoslovak Press reported at the beginning of September that the first shipment of wheat from U.S.S.R. (5,000 metric tons) was under way to Czechoslovakia.

O On July 4th, 1947, the collection of new Czechoslovak-Polish economic conventions was signed with a view to increasing the mutual trade and economic level of both countries. A Special Council for Czechoslovak Polish co-operation will be set up together with commissions charged with the exchange of goods, industrial cooperation, capital investment, transport, finance, agricultural cooperation, scientific and technical cooperation and planning. The agreement on the exchange of goods is concluded for 4 years and each year a special detailed plan for the exchange will be drawn up and agreed upon. In the first year, the current exchange of goods will amount to about 15 milliard Czechoslovak crowns (300 million U. S. dollars). Poland undertakes to supply Czechoslovakia with 1,700,000 metric tons of coal, and with considerable quantities of zinc, salt, eggs ; other Polish deliveries will be textile machinery, artificial silk, electric power, etc. Czechoslovakia is to deliver hops, seedstuffs, kaolin, cellulose, pharmaceutical products, etc.

O Provisions are made for mutual exchange of agricultural goods and foodstuffs. An important supplement requires Czechoslovakia to supply capital investment goods to a total value of 7/5 milliard Czechoslovak crowns (150 million U. S. dollars) ; these supplies will take effect later and will be compensated for by immediate higher deliveries of Polish goods.

O An agreement was signed in Budapest about the exchange of commodities between Czechoslovakia and Hungary for July, August, September 1947. Czechoslovakia will supply coke, iron ore, steel, magnesite and other raw materials and will receive fruit, poultry, edible goods and concentrated feedingstuffs.

O The Czechoslovak press reports that Czechoslovakia may expect from the U.S.A. during the months of July, August and September, 2,200 tons of edible fats and oils.

O According to the commercial Agreement signed July 2nd, 1947, between Argentina and Czechoslovakia, 30,000 tons of wheat will be exported yearly from Argentina to Czechoslovakia, up to 1951, provided the annual wheat surplus of Argentina does not fall below 2,600,000 tons. Czechoslovakia is to send to Argentina steel and iron products, hops, potato seeds, motor vehicles, walling tiles, fireclay material and machinery.

O Czechoslovakia sent its representative-specialists to all three courses organized by FAO : the Hybrid Maize School in Bergamo was attended by one, Veterinary Laboratory Technique Course at Weybridge by two, and the Artificial Insemination Course at Milan by three. Mr. Hugh Calkins, Chief of the Field Services Division, at the Temporary Bureau of FAO in Rome, visited Prague for about one week and held conferences with the high officials of the Ministries of Food and Agriculture and the Czechoslovak National Committee. The Czechoslovak representatives expressed interest in a school in pasture management, agricultural mechanization, livestock improvement, food preservation, and other phases of agriculture.

O Dr. M. Y. Nuttonson, specialist in improvement of crops, arrived in Prague, on July 21st for two weeks' visit, and held a number of conferences with the officials of the Ministry of Agriculture, representatives of the Agricultural Research Institute in Prague and of the Meteorological Institute.

O Dr. R. H. Coats, statistician of the FAO office in Washington visited Prague on July 24th.

These visits were arranged by FAO, which also extended all possible help to an expert in farm machinery, who was assisting in the adjustment and giving instructions concerning the operation of the imported machinery.

Fats and oils review

The following extracts have been taken from one of a series of documents prepared by the FAO staff as material for the third session of the FAO Conference at Geneva, August 25th.

One of the principal causes of the world shortage of fats is the decline in European production. Prior to the war, Europe (excluding the United Kingdom and U. S. S. R.) supplied over two-thirds of its requirements of visible fats from indigenous production (1).

The decline of 1.4 million tons in Continental European production means that indigenous supplies now give only 40 per cent of prewar per capita consumption requirements. The two main items in European production are of course milk (for butter) and slaughter fats, and heavy declines have taken place in both. During the war, when virtually no imported fat supplies were available, every effort was made to stimulate production of oil seeds, notably sunflower and rape seed. These efforts were fairly successful in Germany, Southeast Europe and to a lesser extent in France. But after the war there was a strong tendency to revert

(1) For statistical reasons this production excludes Antarctic whaling and also production in colonial territories, both of which are included under imports.

to other crops. However, in 1946 and still more in 1947, with the continuing gravity of fat shortages, efforts to increase oil seed production have been renewed but adverse weather has hampered these efforts, and the tonnage of oil involved is still relatively small.

European milk production in 1946-47 was about 35% below the 1935-39 level and butter production about 35% to 40% below. The only way to increase butter production quickly would be to require by law that a large part of the milk sold for human consumption should be partially skimmed. This at present is only being done on a small scale. It may be pointed out that no loss of the valuable milk nutrients as human food is involved if semi-skimmed or even fully skimmed milk is distributed to the public, whereas a loss does occur in many countries when a large portion of the milk is made into butter and much of the skimmed milk is either wasted or fed to cattle.

Pig numbers are still much below pre-war levels. Because of the feed shortage, the pigs are also much lighter than normal and carry less fat. Recovery in pig fat and pork production will take place more rapidly in the countries where feed supplies are adequate.

The shortage in supplies of fats falls almost entirely upon urban populations since agricultural families retain reasonably adequate quantities of their produce for their own needs.

Prior to the last war the whaling industry, primarily in the Antarctic, produced, over 500,000 tons of whale oil. During the war whaling virtually ceased.

In the immediate pre-war years, the U. K., Norway, Germany and Japan were the main producers. The great bulk of the post-war production is controlled by Norway and Great Britain. As regards the final recipients, most European countries are obtaining less than before the war. The U. K. seems likely to receive two-thirds of this year's supply.

It is planned to increase the number of expeditions this coming season, which will pose the question of adjusting the limits of the catch to those allowed under the convention which was modified last year in view of the acute world shortage of fats and oils.

World production of fish oil, other than whale oil, is relatively small but not at all negligible. Norway produced about 15,000 tons of herring oil in 1946 compared with 19,000 tons in 1939 and 25,000 tons in 1940. Iceland produced about 17.000 tons of herring oil in 1946 compared with about 20,000 tons (export figures) annually in the late '30's and some 25,000 tons during the war years.

The per capita consumption is 30 kg. per annum in the U. S. and Western Europe and 15-20 kg. in Eastern and Southern Europe.

The fact that supplies of fats available in Continental Europe represent from 60 to 70 per cent of pre-war per capita consumption levels, conceals the drastic curtailment of the activity of the fats and oils industries. The effect of the war and of post-war shortages of raw material has been to reduce these industries to only a fraction of pre-war activity, output being in the neighborhood of 25% of pre-war volume. (This does not apply to the United Kingdom, which during the war largely maintained its level of output in these industries).

Moreover, there seems little immediate prospect of much improvement in the supplies of raw material for the oil mills of Continental Europe, in view of the increasing tendency of oil seed-surplus countries to develop their own crushing industries, and to export their products as oil and oilcake rather than as oilseed. In due course it may be that soyabeans will again be shipped from Manchuria to Continental Europe and that shipments of copra from the Dutch and British East Indies will recover to pre-war levels. Even with this, however, Continental Europe and the United Kingdom both face the prospect of having much less crushing material available for their industries unless and until new sources of supply are developed, as for example is being planned in British East Africa and in French West Africa.

International Meeting on Zootechnology Zurich – October 8-9, 1947.

The International Meeting on Zootechnology, which has just taken place, dealt with problems concerning the present situation of animal husbandry, from the international viewpoint, as well as those concerned with professional organization on an international basis. The formation of an international zootechnical organization was advocated and with that object in view the following motions were passed :

« « With the object of re-establishing personal contacts broken during the war the Swiss Society for Zootechnology convened an International Meet ing on animal husbandry at Zurich on October 8th. and 9th. 1947. Professor Crasemann (Switzrland) and Dr. Rijssenbeek (Netherlands) were appointed chairmen of the Meeting with Dr. Engeler (Switzerland) as secretary-general. This meeting served to gather together experts in charge of animal industry problems in various countries with the object of giving them a general idea of the present state of animal husbandry and current of problems concerning organisation and technical methods. 18 official delegations and 250 delegates coming from 25 countries took part in this meeting. The Swiss Society for Zootechnology was thanked by those taking part for having organised this in-

ternational meeting which laid the corner stone for future international collaboration in the realm of animal husbandry. The Meeting asked the official delegations kindly to bring the following resolutions to the attention of their governments, of the FAO National Committees and of national animal husbandry organizations with the recommendation that action be taken.

The Meeting considers that continuous professional and personal contact is desirable and that, to this end, the formation of some organization appears indispensable. The Meeting recommends that preliminary work in connection with the establishment of such an association be taken up again without delay and be based on the following principles :

1. The association is a private international organization, made up of divisions from different countries consisting in :

a) animal husbandry associations,

b) the scientific workers in charge of zootechical research and teaching,

c) the administrative services in charge of animal husbandry problems.

2. The association is forming itself on an continental basis ; later on continental associations will assemble in a world federation.

3. The Meeting proposes to proceed without delay with the preliminary work for the foundation of a European Zootechnical association and appeals to national zootechnical organizations on other continents to form similar associations.

The preparatory committee of the European association will be composed of delegates from the following countries :

Belgium, Denmark, France, Hungary, Italy, Netherlands, Switzerland and the United Kingdom. The Committee will elect itself.

The Meeting requests the FAO Temporary Bureau in Europe to entrust its zootechnical service with the secretariat of the provisional organising committee.

4. The Meeting recommends that the organising committee take as a basis for the formation of association regulations the text approved by the 4th international zootechnical congress in 1939, as well as the motions put forward during the present meeting. The project should be sent to national zootechnical organizations for comment and be submitted for approval to the constituent assembly which will meet when the 5th international zootechnical congress takes place in Paris in 1949 ».

The Meeting dealt with various problems and paid particular attention to the international situation of horse-breeding, of artificial insemination, etc. It was noted most regretfully that there is no international publication devoted solely to animal husbandry and it was decided that the FAO European Bulletin " Food and Agriculture " should be brought to the attention of European zootechnicians and that they should be asked to contribute to this periodical and to consider it their mouthpiece until such time as an international periodical, specialised in their field, should be published.

Short news items

Based on the reports of 89 sugar factories in Czechoslovakia, the condition of sugar beets is classified as 1 % very good, 17 % good, 71 % satisfactory, 11 % bad. Last year's figures at the same time were 23,70,7 and 0.

* * *

The French sugar beet crop promises to be very good, with 300,000 hectares under cultivation. The drought has hindered growth of the root, but on the other hand, increased the sugar content.

* * *

This year's sugar beet harvest in Czechoslovakia will probably be about 30 % lower than last year ; the deficiency is however counter-balanced by the fact that 376,200 acres have been sown with sugar beet as compared with 351,450 acres last year.

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The sugar beet cultivation in Roumania. In 1947 about 60,000 hectares were sown with sugar beet.

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The sugar beet cultivation in Belgium. According to a census dated 15th May, 52,105 hectares were sown with sugar beet in 1947 as compared with 44,488 in 1946.

* * *

Signor Segni, Italian Minister of Agriculture, has stated that Italy wishes to step up the production of bread grains to 70 million metric tons in order to be in a position to give up importations from abroad. For the accomplishment of this task, Italian Agriculture purposes to improve its methods and intensify its mechanization rather than to extend the areas under cultivation.

* * *

The Swiss Animal Husbandry Society organized a national show of Swiss cattle which was held in Zurich from the end of September to the beginning of October. The same Society has sent invitations for an international conference on animal husbandry which will be held on the 9th and 10th of October, also at Zurich.

The most important livestock countries have been requested to present a Report on animal production in their respective territories and on the principal stock-breeding problems.

FAO has been requested to prepare the main report of this conference.

The delegates of the Swiss Annual Husbandry Society have requested the Temporary FAO office in Europe to appoint Dr. I. Moskovits, specialist on these questions at the Temporary FAO Office, as chief rapporteur.

* * *

Monsieur ORBAN, Belgian Minister of Agriculture, said recently that the livestock situation of his country was extremely difficult, owing to drought and as only imports of about 1 ½ million metric tons cereals feedingstuffs and 5 million metric tons oil cake and other forage could adequately meet the needs of the population. As the present imports leave an uncovered deficit of about 1,600,000 metric tons, Belgium has to buy abroad the necessary animal products, meat and especially butter.

* * *

A group of French experts stated recently that Morocco would become a great cotton-producing country within the next 10 years or perhaps earlier, as large-scale irrigation schemes there are underway, and surprisingly good results have been obtained with an American-Egyptian cotton-seed.

* * *

An International Zootechny and Veterinary Exhibition of scientific and didactic material and of breeding animals is to be held in Milan, June 23-30, 1948, in connection with the first International Congress of Physiopathology of Animal Reproduction and Artificial Insemination. A Preparatory Exhibition Committee has already started its work.

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The British Ministry of Agriculture and Fisheries published a report of the second Reorganization Commission on Hops (Economic Series No. 47, H. M. Stationery Office); it is proposed that the present Hops Marketing Scheme should be viewed as permanent, subject to some remodelling, and readjustment of outstanding basic quota.

ECONOMICS AND MARKETS

Trends in marketing and distribution of agricultural products

(Extract from Doc. C/47-24 written by the Economics Marketing and Statistics Division of FAO in Washington in connection with the 3rd Annual Conference of the Organisation).

The current situation in the marketing and distribution of food and agricultural products is highlighted by the extent of government intervention. This is not an entirely new development, but, except under wartime conditions, it has never been applied so intensively or over such wide areas. Governments are exercising controls in both the national and international fields. In an attempt to solve problems by this means, they have in turn by very virtue of their activities, raised new problems and issues.

The Situation by Regions.

Ways and means of carrying out control of marketing and distribution vary widely from country to country.

In Europe today efforts are almost wholly directed to making supplies of food available for human consumption in as equitable a manner as is practical. Systems of farm collections are employed to insure delivery of as much domestically produced food as possible. These are linked with fixed prices on delivery and, in several countries, apply to almost all products.

Compulsory collections are most common for bread grains but in several countries such collections also apply to feed grains. Quotas are generally assessed on estimates of individual farm production, with allowances made for farm family consumption and for seed and feed. In spite of great efforts to enforce the collection system thoroughly, there has been a good deal of evasion. The inability of producers to use the proceeds from their sales through legitimate channels for the purchase of consumer goods is one of the major factors contributing to the difficulty of collection. Stimulated by the relatively higher prices for livestock products and their utility as barter goods, producers tend to retain as much grain as possible for feeding.

In the distribution of foodstuffs, rationing systems are general throughout Europe. There are very few exceptions. In practically all countries bread is rationed, and the number of other items rationed varies considerably from country to country. Meat and other livestock products and sugar are rationed in most countries, while fruits and vegetables are generally available on

the open market. Along with the rationing system, retail prices have been fixed for rationed products at levels within the reach of the greater proportion of the people. This in turn involves heavy subsidies on the part of governments. In several European countries rationing programs have tended to minimize differences in the levels of consumption as compared with pre-war, even though the higher income groups, in varying degree, are able to supplement their diet by purchase in the free market. The diets of the lower income groups in some of these countries are not any worse, and, in fact, are probably better than pre-war.

In western Europe food processing is an important element in effective utilization of agricultural products. However, in the remainder of Europe this is not so and much waste, especially in fruits and vegetables, occurs because of lack of means of processing and preservation. Governmental programs in Eastern and Southeastern Europe include the development of the processing industries as a means of increasing the amount of food available from home production.

Restoration of a considerable part of the transportation system of Europe has greatly facilitated food marketing and distribution. While the transport system is still handicapped by lack of vehicles and the shortage of steel, conditions are very much better than in the period following the cessation of hostilities. A great deal of assistance was given by UNRRA in supplying trucks and repairs, which helped to bridge the gap pending reconstruction of rail lines and repair of port facilities and waterways.

A large amount of international trade in foodstuffs between countries of Europe is carried on through water-borne transport. It is only during the past year that there has been much increase in this trade, which was practically discontinued between several countries during the war and immediate postwar period.

Most European countries now exercise varying degrees of control over exports and imports of food and agricultural products. Bilateral trade agreements are common throughout Europe and in most countries governments have taken steps to obtain quantities required to meet arrangements made in such agreements. In some cases this is done through government purchasing, while international bulk purchasing by governments is generally common.

The international exchange situation presents one of the major food marketing and distribution problems in Europe. While continental European currencies are generally considered « soft » in relation to North American currencies and sterling, relative to one another they have varying degrees of « hardness ». Currency control in general and difficulties in dealing in foreign exchange to a large degree have eliminated private trading. As a result of this, even within countries in Europe surplus supplies of food, especially fruits and vegetables, which might have been consumed in other countries during 1946-47 were not made available owing to the need for conserving exchange.

The activities of UNRRA in food distribution in Europe were a primary factor in preventing widespread distress and starvation. With the cessation of UNRRA's activities and the continuation of the acute food situation, close vigilance on a national and international scale will be needed to prevent inequitable distribution of food supplies. The work of the International Emergency Food Council, carried on at the international level, has been an important element in a relatively equitable distribution among claimant countries in Europe during the past year.

In the U.S.S.R. the volume of various agricultural products subject to compulsory delivery to the state is fixed annually by law and is assessed by administrative regions and by farms. Collective farm administrations are responsible for the fulfilment of government quotas for deliveries of grains, flax wool, wheat, eggs, milk, and other agricultural products. Supplies for the open market in Russia are provided by the collective farmers from the output of private plots of land. The amount of produce supplied to the cities by these farmers is no doubt substantial. Prior to the war it represented over one-quarter of the total agricultural output. A very high proportion of this supply is represented by livestock products. The rural population is normally regarded as self-supporting. In the case of the urban population, distribution systems are highly diversified. Generally, food prices are high and for the urban population have been offset only partially by increased wages for the lower income groups.

In North and Central Africa marketing and distribution conditions indicate a wide variety of problems. In some sections of the French territories government agencies exercise a degree of control over distribution of foods and over distribution of other consumer goods. In French West Africa the buffer stock scheme has been in operation for several years. Considerable storage space has been built and it is proposed to carry this scheme on as a solution to food shortage problems resulting from the extreme variability in weather conditions. In French North Africa controls over the delivery of food products that were instituted immediately following the war are being gradually abolished. Export products such as citrus fruits, wine, and olive oil are still under control. As incentives to encourage native producers to deliver

their produce, prices have been revised upwards and incentives in the form of priorities in the purchase of production and consumption goods have been introduced. However, the high prices of non-food products purchased by producers and the scarcity of consumer's goods have tended to discourage marketing through official channels. Rationing is general among the European and urban populations.

In central Africa little control has been exercised over the internal collection and distribution of food and agricultural products. On the other hand governments did introduce machinery for the control of exports and otherwise exercised procurement and price fixing functions. These are still in effect and are likely to continue. The United Kingdom instituted considerable government control over the standards and grading of products. During the war the government purchased the total production of cocoa in the West African Colonies. Out of this emerged the West Africa Cocoa Control Board which is now absorbed in the West Africa Produce Control Board.

Short news items

Following the recent agreement between the Belgian and Italian Governments which agreed on the rate of exchange between the two countries for the period June 5th, 1947 to June 4th, 1948, Belgium will export the following quota of horses to Italy :

Breeding horses : 500 head (100 stallions and 400 mares).

Draught horses : 1,500 head.

* * *

An agreement between Denmark and Holland provides for the export by Denmark of 10,000 head of live slaughter cattle in exchange for 5,000 tons of copra from Holland.

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Switzerland is to receive agricultural products and machinery from Denmark to the value of 27 million kroner for yarns, machinery and textile worth 15 million kroner, the balance to be paid in cash, according to a new trade agreement.

* * *

France. — The recent rather unexpected price boosts in fats, oils and other commodities are probably directly connected with the fact that the prospective European deficiencies have been estimated, in Paris, at Dollars 6,652,000,000. It is useful to realize that the total cash farm value of the United States' oil crops last was about Dollars 1,000,000,000.

FISHERIES

The present situation of fishery in Denmark

Extract from " Report from the Danish National FAO Committee to the Food and Agriculture Organization of the United Nations ".

Fishing in the first quarter of 1947 was hampered by severe cold, and many Danish waters were frozen over. The catches, therefore, only amounted to about 27 million kg. as against 35 million kg. in the first quarter of 1946. About 9 million kg. of fresh fish and about 6 million kg. of cured fish, mostly salted cod and salted herrings, were exported in the first quarter of this year. The export of salted fish has developed rather strongly after the end of the war, and there seems to be some possibility also in the future of creating a market for these goods, but the export of fresh fish must be considered in the future to be the branch which is most natural for our fishing industry and in this regard the Danish quality goods will be able to hold their own in the foreign markets also in the future.

The conditions at sea have been more favourable in the month of April, in particular there still seems to be a very rich supply of cod, both in the North Sea and in the Baltic, but the rather cold and unsettled weather in the spring has delayed the plaice fishing in the North Sea, which under normal conditions would have been in full swing by now, and which, as a rule, is the most important fishing during the first six months of the year.

The export programme.

A number of trade agreements have been entered into with most European countries, which agreements also include the supply of fish, both fresh and cured. Provided that the country can secure the necessary material, particularly fuel and raw material for cordage and implements, and provided that there will still be sufficient markets for the products of the industry, it may be anticipated that Denmark will be able to supply just the same quantity of fish products as in 1946.

Also in regard to trout hatcheries there should be fair possibilities for a continued production and sale of at least the same extent as in 1946.

As the trade agreements have only a comparatively short time to run, it is not possible to prepare an actual export programme over a lengthy period. Further, an ever increasing competition with other nations who carry on deep sea fishing must be anticipated, but Denmark's natural advantages due to her situation both in relation to the fishing grounds and the great European markets, may also be exploited in the future, *if the standard of the export fish is being maintained* and reasonable prices obtained for the goods. By means of a suitable low temperature and the constantly improving transport conditions, it should be possible to export Danish fish also to more remote markets.

Special progress within the fishing industry.

The *herring fishery* on a large scale in the *North Sea* was started in 1945 with a view to the salting of the catch. This fishing was extended in 1946 and it is intended to further increase it in the future. The fishing methods are not new, as herring fishing with trawl from motor cutters has been practised for a number of years in the Skage Rak and Kattegat, but the fishing area is being extended to include also the middle and northern North Sea.

If it is possible to supply a fully competitive product from these waters, the Danish fishing industry should stand a good chance of being able to sell its products both on the home market and for export.

Another development within the Danish fishing industry may be mentioned, namely a rather extensive *line fishing of porbeagle*, which was started in 1946. This fish may, in a fresh state, be sold at rather fair prices in certain European markets. The porbeagle was formerly landed from the North Sea, but it was then only in more accidental catches, while now a number of vessels are fitted out for the fishing of porbeagle. On account of the promising start, it is intended to continue this fishing this year.

As already mentioned, the dredging of mussels (mytilus edulis) assumed a very large extent during the war, but the production, which was sold either canned in a boiled state or in the form of extract of the meat, only met with a limited sale in this country and was mainly exported. After the capitulation the interest in mussels has again waned, and only very small quantities, which can be sold in this country, are landed.

Fish filleting has been steadily increasing from the last peace years and is still increasing, both for the supply of the home market and for export, even if the bulk of fresh fish is still sold in its whole state or cleaned and iced.

As already mentioned a large quantity of *salt fish*, mainly for export, has been produced, and there seems to be some possibilities of this production being continued for some time to come.

Freezing of fish was undertaken on a small scale only before the war, but extensions of the existing plants have been made, and some new plants have been erected. Frozen products have hitherto only formed an insignificant part of the Danish fish export, and these articles are only sold in this country to a very slight extent.

An increasing amount of work is being performed by the authorities in regard to *the control of the quality of the fish*. An effective control of the fresh fish for export is undertaken, but also the concerns which cure fish under some form are subject to a number of regulations as regards the hygienic arrangements of the premises, and an effective inspection of the production itself is being undertaken.

Researches, new fishing methods, etc.

The scientific institutions, which are under the control of the Directorate of Fisheries, and are performing work in the service of the fishing industry, are

The Danish Biological Station, and
The Technological Laboratory of the Department of Fisheries.

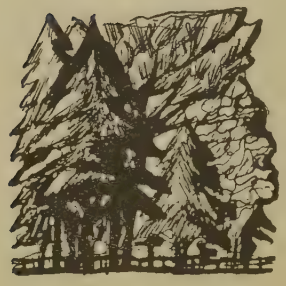
These institutions have been greatly hampered in their work during the war years, and, in regard to the activity of the Experimental Laboratory, the main task has been to assist the canning industry in the testing out of the substitutes, which it was necessary to use both in the preparation and packing of the products.

The Commission for Denmark's Fishery and Marine Investigation is co-operating with the Biological Station in the carrying out of biological and physical studies of our waters. Also this institution, whose field of operation is mainly the North

Sea and the North Atlantic, was forced to suspend its work at sea during the whole war. The research work was not resumed until 1946, and it will now be of particular interest to study the effect which the limited fishing undertaken during the war years has had on the fish stock in the North Sea.

Actual new methods of catching cannot be said to have been employed by the fishing industry in recent years, but both the above mentioned herring fishing in the North Sea and the catching of porbeagles in the same waters represent in any case new methods for our fishing operations in the North Sea.

FORESTRY



The forestry programme in Denmark

Extract from "Report from the Danish National FAO Committee ot the Food and Agriculture Organization of the United Nations".

The most immediate task of the Danish forest industry is to secure the cultures in the places which have been cleared on account of the obligation of the forest owners to deliver wood for fuel, and the seizure made by the German Wehrmacht. Replanting is, thanks to the duty in force to plant new trees on cleared areas, taking place to the desired extent.

While formerly foreign well suited forest trees were imported (mainly conifers, as for example Norwegian spruce, mountain pine, Scotch pine, Douglas pine, silver fir, etc.), Danish forestry is now taking a longer view of things by increasing the production by breeding, and thereby increasing the quality and quantity of sawtimber. Efforts have been directed at the selection of suitable trees for seed and the establishment of cultures, from which to obtain seed, the exploitation of cross fertility (heterosis) and vegetative formation from particular individuals for direct application in practice (clones).

There does not seem to be any prospect of a great extension of the forest areas, unless this is required, for example as a measure by which to combat unemployment.

In order to achieve a more intensive and adequate exploitation of the small forests which are not subject to expert inspection, work is carried on for the purposes of increasing the number and extent of the small forest associations, and also to extend the consultative inspection to comprise the more administrative work.

In order to make forestry remunerative and to retain the necessary labour for the manual work, a rationalisation of the forest work is now attempted.

As it is difficult to make deciduous forests remunerative, as they are behind the conifers in this respect, there is — apart from the Government forests in regard to which other considerations than the purely economical ones prevail — a distinct tendency to replace the deciduous forests (mainly beech) by coniferous forests (mainly Norwegian pine). As both aesthetic and economic interests make a too strong tendency in this direction undesirable, there is in this field a still unsolved problem for the Government to counter.

The economic necessity of carrying through an intensive cultivation has had the effect that forests, to an ever increasing extent, are placed under control of experts, and the instruction, both of would-be masters of forestry and of forest rangers, is, therefore, undergoing gradual improvements in order to meet the constantly increasing demands for expert training.

Reporton the European Timber Position

(Extract from Doc. C/47-24 written by the Economics Marketing and Statistics Division of FAO in Washington in connection with the 3rd. Annual Conference of the Organization).

I. — *The Gap.*

When the International Timber Conference met, it found that prospective export supplies of softwood lumber available for Europe in 1948 could be expected to remain 2 ½ to 3 million standards (6 ½ to 7 ½ million metric tons) short of essential import

requirements. Approximately half the total consumption of softwood lumber goes directly into housing construction. The deficit is likely to compel European countries to postpone the building of some 600 to 700 thousand dwelling units, and to curtail to a considerable degree other activities in which lumber constitutes an essential factor.

Against an estimated world production of softwood lumber of 40 million standards the deficit represents only some 6 %. It affects primarily the importing countries of western and southern Europe, including the non-European countries bordering the Mediterranean. These countries had estimated their essential requirements for 1948 at 7.8 to 8.3 million standards, and can only expect to secure two-thirds of their demands. For these countries, the lumber shortage creates a truly alarming situation.

The real deficit is substantially larger than the estimated figure of 2 ½ to 3 million standards. The 1948 lumber requirements of Europe and the Mediterranean area, excluding the U.S.S.R., are placed at 11 ½ to 12 million standards, almost 10 ½ less than these regions consumed in 1947.

Lumber consumption in Europe is restricted at present to essential requirements and primarily to housing needs. Yet the restoration of normal conditions and a gradual improvement in living standards in Europe can only be achieved when people will be able to use lumber for less essential purposes.

Insufficient supply is not the only factor limiting European lumber requirements. The main cause lies in deficiencies in foreign currencies, other construction materials, coal, manpower and equipment, in the general economic conditions of this continent, and in the high price level to which softwood lumber has risen all over the world. The present basic quotation for Scandinavian softwood lumber, c.i.f. London, is more than three times as high as in the summer of 1939, and even at that price, several European countries find it difficult to sell lumber to Britain in view of increased labour, production and transportation costs.

The major lumber importing countries, working together in the Timber Subcommittee of EECE, consented to diminish their import requirements. In 1947, import requirements, taking into account quotas mutually accepted by the EECE countries, amount to only 2.73 million standards for Europe and the Mediterranean area, and are only 221 thousand standards in excess of prospective supplies.

It is imperative that softwood lumber supplies should reach as soon as possible the full level of essential requirements.

The lumber deficit of 2 ½ to 3 million standards anticipated for 1948 is very real, and, in fact, a growing figure must be expected for so long as supplies fail to reach a substantially higher volume than at present.

The Conference at Mariánské Lázně, therefore, concluded that the European lumber deficit was not only a short-term emergency problem, but had every appearance of becoming a permanent feature of the economy of Europe, claiming the fullest attention of competent international bodies, and demanding appropriate action.

The deficit primarily pertains to softwood lumber, and, to a lesser degree, to a number of other forest products. The Conference expressed itself strongly in favour of early international consideration of these additional problems.

II. — *Causes.*

The European timber crisis is not only the result of an exceptional increase in demand but of an exceptional drop in available export supplies. The forests of Europe and wood imports from North America are no longer sufficient to meet European needs, including those of the Mediterranean area.

Europe has always been a regular net exporter of forest products. 26 % of the land area of Europe (including U.S.S.R.) is covered with forest, and there is approximately one hectare of forest land to each inhabitant of that region, yielding every year an average per capita amount of one cubic metre of wood, an adequate quantity for the current requirements of industrialized nations.

In the first place, while over-all wood production may be sufficient, Europe's output of softwood lumber in particular has been inadequate ever since the beginning of the present century.

In the second place, the lumber position of the various European countries is by no means uniform. A line running down through the middle of Germany to the border between Yougoslavia and Italy divides the continent as regards lumber supply and requirements. Prior to the war, the countries north and east of that line (including U.S.S.R.) used to produce some 4 million standards more softwood lumber than they needed for domestic consumption. Most of this was exported to the timber-importing countries situated in western and southern Europe and bordering the Mediterranean.

Since the end of the war, export supplies from European sources have suffered a reduction to less than one-half of their pre-war level. It has proved impossible to obtain any substantial increases of lumber imports from North America and other overseas sources.

Softwood Lumber Exports

(Including Lumber Equivalent of Sawlogs)

Countries	1937	1946	1947	1948
	(*In Thousands of Standards*)			
1. *From European Countries.*				
Germany	—	169*	328*	200*
Sweden	905	457	400	400
Finland	1,045	360	410	410
U.S.S.R.	1,362	30	75	100
Czechoslovakia	176	43	98	66
Austria	411	107	64	64
Yougoslavia	170	50	100	100
Roumania	250	150	104	111
Other countries	316	50	50	50
SUBTOTAL	4,635	1,416	1,629	1,501
2. *From Overseas Countries.*				
Canada	484	530	550	550
United States	109	120	250	300
Chile	—	7	10	15
Brazil	—	60	70	90
SUBTOTAL	593	717	880	955
GRAND TOTAL	5,228	2,133	2,509	2,456

(*) French, U. K. and U.S. zones of Germany.

Most of the exporting countries have been compelled to curtail their lumber output, because of the reduced capacity of their war-ravaged forests, because of obsolete forestry equipment, shortage of coal and other mineral fuels, insufficient manpower for work in forests and sawmills, and insufficient food to maintain large numbers of workers physically fit for work in the forests.

An increase in lumber supplies is closely connected with a general improvement in the economic condition of Europe, while in turn the increase is itself one of the essential prerequisites for achieving such an improvement.

It can thus be expected that the gradual rehabilitation of the continent's economy will also lead to greater lumber exports from European sources. However, this general improvement will simultaneously produce an increase in demands for lumber, while the capacity of European forests to produce lumber is rapidly declining.

It must be expected that the present lumber deficit is not of a temporary but of a permanent nature, and that short-term countermeasures will not provide adequate solutions. This statement must however be qualified in one important respect, namely the special position of the Soviet Union, which was not represented at Mariánské Lázně. If the U.S.S.R. were able to expand the exploitation of its timber resources and the export capacity of its forest industries, the fear that a lumber deficit must become a permanent feature of the economic life of Europe would be largely removed.

III. — *Solutions.*

The foremost objective of the International Timber Conference was to reduce and, as far as possible, eliminate the difference between essential requirements and available supplies of softwood for the current year, and for 1948 and 1949. In pursuance of this object, unanimous agreement was reached on a number of measures which could offer a satisfactory solution if applied simultaneously.

(a) *Increased Fellings*, by 10%, of sawn softwoods during 1947-1948 and 1948-1949 : which must result either in increased exports or in decreased imports. It would be open to certain countries to achieve the same result by other measures, including restrictive measures in use or consumption.

Certain countries would not be able to make the required effort without assistance, due to shortages of manpower, food, coal, credit and other physical factors.

The estimated production of softwood lumber of the European countries represented at the Conference amounts to 8 million standards for 1948. A ten per cent increase would reduce the deficit by eight hundred thousand standards.

(b) *Increased Exports from Countries within Europe and the Mediterranean Area.* — It was hoped that certain major European exporting countries might be able to increase their lumber exports in 1948 and 1949 over and above the 10 %, in particular the Soviet Union, which was not represented at Mariánské Lázně. Prior to the war, exports from the present territory of the U.S.S.R. were close to 1 ½ million standards. In 1946 and 1947, less than 100 thousand standards per year reached European countries from that source. It it were possible for the Soviet Union to resume lumber exports, most of the remaining deficit would be covered.

(c) *Possible Additional Exports from Germany.* — German occupation has been the main cause of the present exceptional reconstruction needs in many parts of Europe.

Some countries desired assurance that their reconstruction needs would receive highest priority, even to the extent of ruling out considerations of conserving Germany's forest resources at their present level. It was pointed out that, throughout the war, Germany's lumber consumption was as high as 0.6 cubic metres per inhabitant, compared

with a European average of 0.3 cubic metres and even lower figures in parts of Europe. She still owns millions of cubic metres of standing timber in well-managed forests.

In 1947, production was organized so as to allow exports representing the equivalent of 328 thousand standards from the British, American and French zones of occupation toward requirements of other European countries, plus an unspecified quantity from the Russian occupation zone. It was recommended that the occupying powers should consider the great need of the devastated countries for forest products, and should aim at a substantial increase in exports.

(d) *Possible Additional Exports from Overseas Sources.* — In determining the deficit for 1948, it was estimated that Canada, the United States, Chile and Brazil would contribute 950 thousand standards toward Europe's needs. This is an increase over estimated esports in 1947.

(e) *Economy in the Use of Timber and Limitation of its Use.* — A series of measures was examined by the Conference, consisting of the establishment of governmental controls to restrict the use of lumber and the achievement of a considerable reduction in anticipated requirements by applying modern methods.

None of these emergency remedies is inherently desirable, and some may even contain the danger of creating a more serious crisis a few years hence.

The Conference devoted a great deal of attention to the initiation of a sound European forest policy and adopted a set of recommendations directed to :

(*a*) The achievement of adequate housing and living standards in Europe.

(*b*) The restoration and improvement of forest resources in Europe and a substantial increase in their yields.

(*c*) A fuller utilization of the annual forest crop.

(*d*) The opening up of hitherto undeveloped forest resources in order to supplement the inadequate supplies of lumber from European forests now accessible.

The intention of FAO to hold forest and forest products conferences in other parts of the world, in furtherance of these aims, was strongly supported.

IV. — *Procedures.*

International cooperation with regard to European timber problems is not new. Prior to the war, the Comité International du Bois (CIB) and the European Timber Exporters' Convention attempted to stabilize the European timber market by quota agreements and other arrangements, concluded mainly among the major exporting countries. Since 1945, the Timber Subcommittee of the EECE has attempted to obtain agreement among a number of leading European importing countries on the distribution of available lumber supplies.

The Conference felt strongly that an approach on a broader basis was needed to solve the present crisis and to open the way for satisfactory permanent solutions. It was deemed important to ensure that timber production, distribution and consumption should always be considered as an inseparable unit, and further that a proper coordination of short-term and long-term policies should be realized.

While the application of the technical and economic measures recommended by the Mariánské Lázně Conference is the responsibility of individual governments, it will require also the continued assistance of many international agencies, above all of the Economic Commission for Europe and the Food and Agriculture Organization of the United Nations.

In particular, the Economic Commission for Europe, ECE with the technical assistance of FAO, should pay special attention to :

(*a*) increasing available timber supplies, and decreasing waste of food in order to help meet the needs of European construction ;

(*b*) aiding the reduction of the economic difficulties which hamper increased production in certain countries by assisting those countries to obtain the economic help they need ;

(*c*) the satisfactory distribution of available timber supplies. No recommendations were made as to the most appropriate methods for such distribution, on which governments will have to agree in due course. Certain countries, however, were anxious to express the opinion that special allocations by countries of destination or origin were not desired by them.

Considering that the problems of forests and timber of all European countries and of the non-European countries adjacent to the Mediterranean are inseparable, the Conference recommended that ECE should permit all such interested countries, whether members or not, to participate in work in connection with forests and timber.

The term " timber " should be taken to include not only softwoods but also hardwoods, pitprops, railway sleepers, telegraph poles, pulpwood and plywood.

In the opinion of the International Timber Conference, it is the immediate responsibility of ECE and FAO to continue the work of the Conference along the lines indicated above. The Conference hoped to bring about changes in the European timber situation during 1948, and even to obtain certain improvements during the current year. Since the activities of EECE, including its Timber Subcommittee, are approaching an end no time should be lost in giving effect to the above suggestion.

VITICULTURE

Position of the wine industry throughout the world (1)

(By M. B. A. Samarakis, Secretary General to the OIV).

One must consider the situation of the wine industry in this post-war period in those countries unaffected by war as well as the others. We will therefore examine estimates of this situation country by country and will use as terms of comparison the years 1939, 1945 and 1946.

Algeria. — Vineyards had attained their maximum area of 412,815 ha. by 1938 (of which 398,628 were under cultivation) but this area is constantly decreasing :

1939	Area :	398,826 ha.	Prod. :	17,879,609 hl.
1945	»	347,152 ha.	»	9,500,137 hl.
1946	»	338,645 ha.	»	9,039,724 hl.

Austria. — Both the vineyard area in Austria and the wine production are approaching pre-war averages :

1939	Area :	35,295 ha.	Prod. :	997,713 hl.
1945	»	34,864 ha.	»	600,000 hl. } estimates
1946	»	34,864 ha.	»	1,000,000 hl. } estimates

Bulgaria. — Vineyard area continues in 1946 to increase slightly whereas wine production, table grapes and other by-products of the grape show a drop as a result of the heavy damage to vineyards caused by spring frosts :

1939	Area :	140,680 ha.	Prod. :	2,095,318 hl.
1945	»	154,077 ha.	»	2,430,824 hl.
1946	»	155,929 ha.	»	1,546,095 hl.

(1) Report presented and adopted by the Governing Committee of the International Office on Wine (1,2/7/1947), and submitted to the third Meeting of European National Committees of FAO.

plus a production of 140,000,000 kg. of table grapes instead of 180,000,000 kg. of table grapes in 1945 and 160,000,000 kg. of table grapes in 1939.

Spain. — We have unfortunately not received the Spanish report and we will reserve until later our comments on the condition of the wine industry in Spain. We can state, however, that it is flourishing and that in 1945 the vineyard area was 1,374,500 ha. instead of an average area in 1939 of 1,397,200 ha., and that the yield was 18,712,900 hl. in 1939 and 13,850,000 hl. in 1945.

France. — The vineyard area for 1946 is about the average for the last few years, for, as we noted in our last year's report, the area for 1945 was exceptionally below average on account of the frost which had deprived many cultivators of almost their entire harvest. But wine production, though it shows some improvement over 1945, is still far below the average of the pre-war years :

1939	Area :	1,450,492 ha.	Prod. :	67,446,728 hl.
1945	»	1,274,779 ha.	»	25,039,588 hl.
1946	»	1,345,566 ha.	»	31,562,321 hl.

Greece. — We have not yet had the official report but, so far as we are able to tell from what we have heard elsewhere, the Corinth vineyard for raisin grapes which, before the war, had an area of 60,000 ha. has, under the occupation, decreased by 12,000 ha. and its yield, which in 1941 amounted to 135,000,000 kg. of dried grapes dropped to 38,000,000 kg. in 1944-45 and then rose again to 57,000,000 kg. in 1946 47.

We would like, however, to mention that the area of the Greek vineyards before the war amounted, on the average, to 175,000 ha. and the yield to about 3,500,000 hl.

Italy. — The area of the Italian vineyards naturally shows a decrease by comparison with the pre-war figures but one should particularly note that wine production is back to normal :

1939	Area :	3,935,800 ha.	Prod. :	42,500,000 hl.
1945	»	—	»	29,297,590 hl.
1946	»	3,880,157 ha.	»	33,725,270 hl.

Particular note should be made of this important fact on account of the important place held by Italy in the first rank of grape-producing countries.

LUXEMBOURG. — The vineyard area of Luxembourg is back to prewar dimensions and so, to some extent, is its production which, in 1946, shows a very great improvement over the 1945 figures :

1939	Area :	1,240 ha.	Prod. :	98,700 hl.
1945	»	1,250 ha.	»	29,600 hl.
1946	»	1,248 ha.	»	72,700 hl.

MOROCCO. — The vineyard area has remained practically constant throughout the past few years, but it shows a decrease in 1940 compared to the prewar area ; it is the same with the wine production which, however, increased somewhat in 1946 :

1939	Area :	23,900 ha.	Prod. :	621,741 hl.
1945	»	16,000 ha.	»	232,811 hl.
1946	»	16,000 ha.	»	335,596 hl.

PORTUGAL. — The Portuguese vineyard area remains constant but the wine production, on the other hand, varies considerably from one year to another :

1939	Area :	344,000 ha.	Prod.	7,720,133 hl.
1945	»	—	»	10,167,222 hl.
1946	»	346,400 ha.	»	6,688,730 hl.

ROUMANIA. — As we mentioned in our last year's report Roumanian vineyards have been greatly decreased as a result of the war and we have not yet received the figures for 1946 production which we are hoping will arrive by the Roumanian Delegation to the Committee Session. The vineyard area and wine production figures for Roumania were as follows :

1939	Area :	369,041 ha.	Prod. :	11,541,981 hl.
1945	»	249,273 ha.	»	6,231,825 hl.

SWITZERLAND. — The official figures of the Swiss statement show appreciable progress both in extent of vineyard area and in wine production :

1939	Area :	11,614 ha.	Prod. :	733,294 hl.
1945	»	11,292 ha.	»	613,472 hl.
1946	»	12,854 ha.	»	729,365 hl.

TUNISIA. — Tunisian vineyards as we have noted before have been badly hit by phylloxera but their reconstruction is under way, as we have also noted.

1939	Area :	42,232 ha.	Prod. :	1,300,000 hl.
1945	»	29,943 ha.	»	645,000 hl.
1946	»	27,608 ha.	»	548,000 hl.

TURKEY. — Considerable progress has been made in the Turkish grape industry during the past few years, as we have previously noted and which we will also have the opportunity of stating at the coming Istanbul Congress. The following are the figures taken from the official Turkish statement :

1939	Area :	420,524 ha.	Prod :	1,195,772,000 kg of grapes
				102,519 hl. of wine
1945	»	431,488 ha.	»	1,043,376,000 kg of grapes
				265,595 hl. of wine
1946	»	—	»	180,192 hl. of wine

HUNGARY. — We have not received the Hungarian statement but from information gathered from other sources we note an increase in Hungarian wine production :

1939	Area :	210,000 ha.	Prod. :	4,370,000 hl.
1945	»	—	»	3,342,000 hl.
1946	»	—	»	4,000,000 hl.

YOUGOSLAVIA. — We have no official data on Yougoslav vineyards which before the war had an area of about 210,000 ha. with a production of approximately 4,500,000 hl.

CYPRUS. — The vineyard area is roughly 57,000 ha., and produced :
1939 161,700 hl. of wine 4,222,000 kg. of dried raisins
1945 136,950 hl. of wine 3,610,000 kg. of dried raisins
1946 214,000 hl. of wine 6,000,000 kg. of dried raisins.

UNITED STATES. — California vineyards show considerable fresh progress in the production of table and dessert wines :

1939	Area :	197,662 ha.	Prod. :	2,687,000 hl.
1945	»	210,000 ha.	»	4,420,692 hl.
1946	»	—	»	6,724,036 hl.

The total vineyard area was about 210,000 ha.

ARGENTINE. — We note the following figures :

1939	Area :	129,795 ha.	Prod. :	6,760,605 hl.
1945	»	142,333 ha.	»	7,262,658 hl.

We wish to repeat that the average five year yield for the years 1941-1945 amounted to 8,254,656 hl., whereas it was 7,323,728 hl. for the five year period 1936-1940.

CHILE. — The vineyard area and production were as follows :

1939	Area :	90,000 ha.	Prod. :	2,560,000 hl. circa
1945	»	96,427 ha.	»	4,000,000 hl
1946	»		»	3,400,000 hl. circa

BRAZIL. — We repeat the figures given in our previous report :
1939 45 Area : 25,000 ha. Prod. : 836,000 hl.

SOUTH AFRICA.

1939	Production	1,700,000 hl.
1944	»	2,000,000 hl.

U. S. S. R. — As we noted in our previous report we have no exact data on vineyard area or production although we have several times requested them in exchange for the statistics which our Office has furnished to this country.

CZECHOSLOVAKIA. — We have not yet received the official report for 1946 and we can only quote the 1945 figure for vineyard area as being 20,055 ha. We may add, semi-officially, that the vineyard area in 1946 amounted to 18,817 ha of which 16,865 were under cultivation.

GERMANY. — The average wine production for the five year period 1939-1944 amounted to 1,900,000 hl. We are awaiting last year's figures.

AUSTRALIA. — We note the 1946 production figure of 1,112,880 hl. of wine.

PALESTINE. — We have received the following report from Jerusalem :

1939	Area :	18,393 ha. Prod. :	34,212 hl.
1945	»	17,833 ha. »	51,685 hl.
1946	»	18,545 ha. circa	59,158 hl.

CONCLUSION

With information received in its present state it is obviously difficult to draw any conclusion on the world evolution of the wine industry. We will await another opportunity, perhaps at the Committee Session of the OIV, when we have gathered the necessary material to form a judgement.

The COMMITTEE OF THE INTERNATIONAL OFFICE ON WINE recommends :

That all countries engaged in grape culture and producing wines or spirits with name-brands shall establish an exact list of terms with their connotations.

For each name-brand or group name-brand this list shall comprise the following :

1) The history or derivation of the name-brand used.

2) A geographical and physical (i. e. climate, soil, sub-soil, topography) description of the area of production.

3) A list of the vines peculiar to the name-brand with their "synonyms" if possible.

4) A note on traditional methods of cultivating and especially of pruning.

5) A description of fermentation methods according to the usual custom together with a note of what ingredients, if any, may be added in conformity with those customs.

6) An exact note on the organoleptic character of the wines or spirits derived from wine having the right to the name-brand.

7) An exact statement on the legal status of the name-brand in the event of there being some detail arising from the laws in force. A catalogue of the name-brands submitted in the list shall accompany the latter and shall differentiate, where necessary, between regional, sub-regional and local name-brands. This list shall be posted at the FAO and the ICC (Interstate Commerce Commission).

The lists prepared by various countries shall be submitted to the International Office on Wine before the July 1948 Session. They will be brought up to date as and when the studies undertaken by each country are carried out.

The list thus conceived may serve to establish an international wine code for those having the right to name-brands : this code having been set up by a commission attached to the International Office on Wine. This list may be put at the service of those international organizations interested in the control of name-brands in international trade.

The Committee of the International Office on Wine urges all governments interested in the development of quality in wines and spirits to lend practical and effectual help without delay to those wines and spirits having the right to name-brands, and to ease the exchange of the products of wine-growing. The Committee recommends that they favour all such changes in legislation, customs duties and commerce which tend towards the improvement in quality, and that they encourage the use of name-brand wines and spirits which fulfill the conditions enumerated above.

They recommend establishing an international convention between countries exporting or importing name-brand vine products with a view to affording them unified and international protection. This convention will be prepared at a technicians' experts' conference which will be convened later by the FAO and the ICC in collaboration with the International Office on Wine.

MOTION PUT FORWARD CONCERNING THE USE OF NURSERIES.

In view of the fact that the life and well-being of vines is partly dependent on the quality of the stocks to which they are grafted the Steering Committee of the OIV recommends that those countries belonging to the organization exert an effective control on the production and sale of woody stocks and vine shoots with the object of ensuring the genuineness (pedigree), the health and cultivation value of those plants which are placed at the disposal of the wine producers (growers).

Short news items

According to an official estimate the wine production in France excluding the North Africa harvest will be 70,127,000 hectolitres ; though the droughts have caused considerable damage in some regions, this result will be higher than that of 1946 (26,160,000 hectolitres) being yet below the pre-war average crops (38,885,000 hectolitres).

The "Court-noué" of the vines

In June 1947 the International Office of Wine organized in Paris a seminar on "Court-noué", a disease of the vine whose steady advance has given rise to fears of a real crisis. In the Report presented and adopted by the Steering Committee of the International Office of Wine (1-2 7 1947), and submitted to the third Reunion of European National Committees of the FAO, the OIV sets forth:

"The confusion arising between the external and internal characteristic of "Court-noué" and other diseases and decay of the vine appears to have hindered the progress of knowledge by inspiring often contradictory hypotheses. It is important, therefore, that experts from grape producing countries designate by the name "Court-noué" one disease only; it has been deemed possible to gather them together with a view to making a common study of its characteristics in the vineyard.

(1) The disease under study has been designated as follows in the literature of grape culture: Court-noué (France); Arricciamento (Italy, on *V. vinifera*); Roncet (Italy, on American vine); Reisigkrankheit (Germany).

(2) It differs from "Court-noué" occasioned by cold, by withering caused by subterranean organisms (phylloxera, decay, etc.), or by damage (Oleron disease, "Mal nero", etc.) wrought by bacteria (*Erwinia vitivora*. Bacc. of P.).

(3) Its external characteristics have been described by Pantanelli (general symptoms) and by Ravaz (final stage of withering).

(4) It would be useful to be able to compare the characteristics of already studied vines suffering from "Court-noué" with those which the technicians invited to the seminar will have deemed useful to gather in their respective countries by way of samples (plant material, photographs, drawings, etc.).

Study will be devoted to the following:

(*a*) European grafted stocks planted in phylloxera-infested soil.

(*b*) Ungrafted American stocks in the same soils.

(*c*) Ungrafted European stocks planted.

(1) in phylloxera-free sand;

(2) in vineyards which have been treated by flooding.

The conditions under which the disease develops in these circumstances will then then be compared.

The following recommendations were made by the Study Commission:

I. The terms used in different countries for designating "Court-noué", and that term itself, appear insufficient as they only emphasise one aspect of the disease: it is therefore agreed that from now on it shall be called "*infectious degeneration*".

II. The importance of *infectious degeneration*, both from the scientific and economic point of view justifies an increased amount of research on this disease.

The expansion of this research is recommended both in general and, more particularly, along these lines:

(*a*) Various combinations of grafts with a view to ascertaining exactly how the disease is transmitted from one part of the plant to another or through what intermediaries.

(*b*) A systematic search for varieties of vine either exempt from the disease or highly resistant to it.

(*c*) Serological studies.

(*d*) Research on the part played by phytohormones in the occurence of symptoms of *infectious degeneration*.

(*e*) Culture of vine parts showing *infectious degeneration*.

III. One cannot exclude the possibility that *infectious degeneration* is carried by phylloxera of the roots, and research bodies of all member countries are requested to entrust to trained entomologists the experimental study of the connection which may exist between phylloxera and this other disease.

IV. The number of *endo-cellular filaments* appears to be linked to the degree of infectious degeneration and it is urged that research be undertaken which will confirm this easy diagnostic method which is already used in Italy and which is founded on this curious relationship.

Note by the Polish FAO Çommitee on the Çolorado potato beetle in Poland

The first outbreak of the Colorado Potato Beetle was discovered near Kielce in the summer of 1946, and during the past summer, in June and July, eight other outbreaks were discovered. It is

thought that the beetle first appeared in the country in 1945, having been brought to the country by German rail transports of potatoes. No particular measures were taken when this outbreak was discovered in 1946, but shortly after that an intensive program was organized for its eradication.

As outbreaks were discovered, school children and other were mobilized to go through the infested fields and hand pick the beetle. Following this, the potato plants in the infested area were pulled and buried deeply in the ground. The soil was then fumigated with dichloroethylether (C^2 H^2 Cl^4) The fields immediately surrounding the infestation were sprayed or dusted with arsenicals at one week to ten day intervals. About twice each week school children would inspect all potato plants in the area of infestation to detect any evidence of the beetle.

The FAO Field Service Entomologist, Dr. Rawlins of the New York (U.S.A.) Agricultural Experiment Station has visited several areas of the country, conferred with officials, and attended a three-day conference set up to discuss means of combating the beetle. This conference was attended by representatives of the Soviet Ministry of Agriculture, a delegate of the Czechoslovakian Ministry of Agriculture, and a representative of a Swiss laboratory of plant protection and one from the Zurich Institute. An illustrated talk using coloured slides was given by Dr. Rawlins.

It was brought out by the Soviet representatives that a program had been organized in the Russian Occupied Zone of Germany in 1946 to stem the eastward advance of the beetle. This Zone had been divided into three districts, after a survey ; one in which the infestation was fairly general, one in which infestation was moderate, and one, next to the Polish borders where the infestation was sparse. In this district eradication methods such as described above were in use, while in the two areas of heavier infestation, normal control methods were being used.

Poland, likewise, has been divided into 3 areas, or zones, one a zone of about 50 kilometers wide bordering Germany, where inspection of all potato fields was intended to be intensive, a second north-south zone bordering the first zone, to be covered by thorough inspection, but not as intensive as the first zone, and the rest of Poland constituting the third zone. However, all the outbreaks were discovered in the second and third zones, whereas more of the outbreaks had been expected in the first zone.

According to the entomologists, it is impossible to tell as yet whether environmental conditions in Poland are such as to be conducive to the spread of the beetle. Plans are being developed for biological studies in several parts of the country, but it will be several years before conclusive results are obtained. In the meantime, it is generally felt that measures undertaken this summer should be continued again next season when and if the beetle again makes its appearance.

Bacterial wilt of corn

Bacterial wilt or Stewart disease of corn was first reported in Italy by Pasinetti during the 1935 season in the Province of Milan. The disease was sporadic in the first few years ; however, since that time it has continued to spread through the corn producing areas of Northern Italy. According to Prof. Fenaroli, Director of the Corn Experiment Station at Bergamo and Prof. Biraghi of the Plant Pathology Station at Rome, bacterial wilt has now spread and causes damage to corn over a large part of the corn producing areas of Northern Italy.

The bacterial wilt disease as it appears in Italy affects what appears to be absolutely normal corn quite often about the time when it is tasseling. The disease appears on the leaves, mostly on the leaves attached about half way up the stalk. The affected leaves look as if they have been damaged by frost or by something that caused the plant to burn. After the rather late attack of the plant the dryng up of the leaves gradually extends, and toward the middle of August all the leaves of the plants may be completely affected, while the stalk is still green. If the internode of a stalk of one of the infected plants is cut the white mass of the pith shows some brown dots, which are the vascular bundles where the parasite is localized. The number of these dots is in relation to the stage of the disease. About ten or more minutes after having been cut, small yellow, slimy drops appear. These are caused by the bacteria and from them pure cultures of bacteria may then be easily isolated.

The bacteria may also be found in the tissues of the young ear.

The loss of leaf surface causes a weakening of the plant and when the loss, as often happens, is total, the plant dies.

General observations made by Prof. Biraghi on Italian corn would indicate that the disease manifests itself most in corn grown on poor soil or in summer-sown corn. Then the first symptom noticed is uneveness in the development of the plants. When the tassel appears it generally has a shorter stalk and bears little pollen, and furthermore looks dry and whitish. Connected with the behaviour of the tassel there is a marked

delay in the appearance of the ear. The consequence of this delay may cause sterility. In the course of time the leaf withering appears.

As it has been pointed out the bacteria may enter the tissue of the ear and the corn kernel. Thus the disease may be carried from one year to the next partially through the seed. In the U.S. the number of infected seed according to experimental tests made from diseased crop varies from 2% to 13%. In Italy this percentage may be higher.

Dr. Jenkins of the United States Department of Agriculture, who participated in the FAO International Hybrid Corn School at Bergamo and is familiar with the bacterial wilt, made the following comments regarding his field observations of the disease in Italy. The injury to the field corn in Italy is more serious than in the United States because there the disease generally affects only the leaves of field corn while in Italy it attacks the entire plant. In the United States sweet corn is affected much the same as field corn in Italy, as it is highly susceptible to attacks of bacterial wilt and systemic attacks of the plant are expected. In experimental work carried out at the Experiment Station in Beltsville and checks made on foreign varieties of corn resistant to wilt, it was found that some Italian varieties were more susceptible to bacterial wilt than were American varieties of corn bred for wilt resistance.

In the United States the spread of the disease is largely through the flea beetle. When the flea beetle eats holes in the leaf of the corn plant bacterial wilt gains entrance to the plant and infection begins. From observations made by Mr. Jenkins and the Italian specialists in a few fields having bacterial wilt disease, it could not be established that the flea beetle had been associated with the spread of the disease. Mr. Jenkins secured a number of diseased leaves of these corn plants which he sent to Beltsville for the study of the disease.

The exact way by which the disease spreads in Italy has not been established. Extensive field observations are now being made as well as the collection of information from farmers to determine the extent of the disease in Italy in order to devise the best methods for control.

The first experimental work in Italy on breeding and selection for wilt resistant varieties of corn has begun.

In order to discover the methods best suited to control the disease close collaboration between plant breeders will be necessary. Through cooperative studies of plant breeders it will be possible to secure resistant varieties. Plant pathologists should then undertake to determine how the disease is spread as well as to recommend the best methods to limit its spread, and the entomologists should establish if insects play any part in the spread of the disease.

During the meeting at Bergamo Corn Experimental Station all of the foreign delegates had an opportunity to see the disease and hear a lecture by Prof. Biraghi and a discussion by Dr. Jenkins on bacterial wilt. However, it results that up to the present this disease is not very widely spread in Europe as the disease was not known by many of the delegates.

Short news items

Colorado beetle infestation in some parts of French-speaking Switzerland is reported by the Federal Institute for Testing and Control of Seeds (Station Fédérale d'Essais et de Contrôle de Semences) in Lausanne. The result of abnormally warm days in September, which proved favourable to the appearance in great masses of summer generation insects, gives rise to fears that a second summer-generation could complete development. The Institute therefore urges that, in spite of high cost and difficulties, the late potato crops in infested areas should receive appropriate and immediate treatment.

HORTICULTURE

Horticulture and Gardening in Denmark

Extract from "Report from the Danish National FAO Committee to the Food and Agriculture Organization of the United Nations".

Horticulture and gardening have undergone a strong development both in extent and intensity during the last decades, and this development has made particularly rapid strides during recent years, partly on account of the suspension of imports and partly on account of professional and technical progress in various domains.

As regards *vegetables*, it is stated in the section dealing with Agriculture before the war and up to 1946, that 10,000 ha. are devoted to the cultivation of vegetables in the fields. To this comes a considerable production in the market gardens, for example forcing of tomatoes and cucumbers in green houses, besides a considerable production in the private kitchen gardens, of which there are comparatively many in Denmark, as practically all houses and farms in the country, and all villas in the towns, have each their kitchen garden which supplies their own household. Further, vegetables are grown in all the many allotment gardens of which there are more than 100,000 around the towns.

The export of vegetables will amount to about 60,000 tons in the harvest year of 1946-47, of which about 1/5 are swedes, which are not generally considered vegetables, while the rest mainly consists of cabbage and carrots. It would be possible for Denmark to produce a very considerable quantity of different vegetables for export.

Fruit cultivation, however, has experienced the greatest rise. Also in this connection a distinction must be made between fruit cultivated in gardens for the supply of the particular homes, and fruit cultivation carried on in market gardens and in plantations. The two last mentioned categories have increased from quite small areas twenty years ago to 11,800 ha. in 1945. The main stress is laid on the cultivation of apples. In 1945 there were altogether 10 million fruit trees, of which 7.3 million were apple trees. The market gardens and plantations counted 4.6 million trees, whereof 3.4 million apples.

The harvest of apples varies greatly from year to year. During the last years it has been from 90 to 160 million kg. annually of which from 40 to 60 million kg. was for sale.

Formerly Denmark imported large quantities of southern fruits and apples. This import was curtailed already in the thirties owing to the position of the balance of trade, and was entirely suspended during the war. After the war there has been an import of southern fruits, but only on a very limited scale. The fruit consumption in the towns is now mainly covered by Danish apples, and in addition a not inconsiderable export of apples is taking place. In 1946-47 4,000 tons of apples were exported. Besides, wind-blown and discarded apples form the basis of a small new industry for the production of apple juice, pectin and other apple products.

The supply of apples to the towns is not yet quite satisfactory, because of the lack of the necessary facilities for the storing of the fruit for a period exceeding the first 5 or 6 months after harvesting, but great progress is being made in this field, and Denmark's production and export of fruit, particularly apples, could be extended very much. Denmark also exports a quantity of nursery products, and this production is making fair progress.

Peasant life in the Swiss Mountains

The fact that mountain peasants lead a far harder life than those of the plains has several times attracted the attention of the Swiss Cantonal and Federal authorities, who have taken effective measures in their favour. These were mainly of a financial nature : subsidies, extension of the Raiffeisen banks and, in 1932 in the Canton of Fribourg, thanks to the help of federal subsidies, the creation of a relief fund for peasants who had fallen into debt. Some of the measures taken, such as the land-improvement, the encouragement given to breeding, animal husbandry, marketing, the welfare of farm labour, etc., were of an economic nature. While the measures taken had given good results they are not sufficient to eradicate the root of the evil. Something must be done to help family life to play a fuller part. Two scourges must be fought against : the falling birth-rate and the depopulation of the mountain regions. Mountain peasants should benefit in these matters from two new organizations ; on the one hand, a system of family allowances which, by coming to the help of big families, will combat the falling birth-rate ; while on the other hand, an old age pension, by guaranteeing aged people a certain amount sufficient for their minimum needs, will obviate the necessity of middle-aged people leaving their native region in order to make provision elsewhere for their old age. The first of these two measures was put into effect by a 1944 Order of the Federal Council.

Another means of fostering family life in mountain regions would be to grant each family a sufficient amount of land for its needs. This might partly be done by the reassembling of scattered holdings.

50th Anniversary of the Swiss Peasant Union

On June 7th last there was a solemn celebration of the 50th anniversary of the foundation of the Swiss Peasant Union (Union suisse des Paysans). This huge association, completely professional in character, has protected the interests of the peasant class and has strongly influenced the economic policy of the country for the past fifty years. The Swiss Peasant Union or U.S.P., a contemporary of the Confédération générale du Travail (C.G.T.), was founded in Berne in 1897 after the evolution, on a local scale, of many agricultural syndicates which had gathered together livestock breeders and farmers.

The violent economic crisis which affected farming in all industrialised countries and brought about the vast co-operative movement, led, here also, to the formation of a central organization. The progress made by industry and commerce and the constant improvement in means of communication and transport had upset the established economic balance to the detriment of a peasant class unprotected by tariffs. Some action was imperative as the advocates of free-trade were ready to sacrifice local agriculture to the needs of their cause.

That is why the Swiss peasants, stirred by their instinct for self-preservation and in spite of internal dissension, joined forces and started the fight for unity as far back as 1893, gathering members of both Cantonal and Federal governments to their cause. Four years later 281 delegates representing farmers' associations from all over the country, met as a constituent assembly in Berne and founded the Swiss Peasant Union and its Secretariat on June 7th 1897. This union represented a fifth of the Swiss population. While retaining their fundamental independence the big agricultural federations and associations adhered to the Union which now numbers 62 sections and more than 600,000 members. The resulting division of labour strengthened the whole network of Swiss agricultural organization : technical societies, co-operative federations, federated livestock-breeding syndicates, milk and cheese federations, agricultural loans, etc.

The Directorate consists of a Committee of 12 members, a general Committee of 130 members and an Assembly of delegates (700 members). Administration and technical work is in charge of the Secretary-general of the Union and the head of the Secretariat. The Swiss Peasants' Secretariat (Bauernsekretariat), which is a separate financial entity, has become the institute and central scientific body of the Union. The Union was able to put its work on a solid basis and make a quick start thanks to the strong personality of its Director, Dr. Ernest Laur, who made a vigourous attempt to place agriculture on an equal footing with industry, crafts and commerce. Assembling of a mass of statistics was a part of this task vital to the preparation of a precise and care-

ful groundwork. The policy of safeguarding farming interests was made possible by the foundation, in 1900, of the Research service for Swiss agricultural yields (« Service des recherches sur la rentabilité de l'agriculture suisse »). From the very beginning the Federal Ministry of Agriculture entrusted the study of economic and social problems to the Union and consulted with it on tariff policy (e.g. on the working out of the 1903 customs duties) and on commercial agreements to be reached with other countries. The Union also took part in formulating the Federal law on trade in foodstuffs (1906), the law concerning the control of epizootic disease (1917) and the law establishing rates on Federal railways. Almost all the claims of the Union were conceded when the Swiss civil law was codified in 1912.

The Union has made a special feature of its publications. The first number of « The Swiss Peasant » (« Paysan Suisse ») came out in 1901, it is the official publication of the U.S.P. and was issued in German and in French, later in Italian also, and was inserted as a supplement in agricultural papers. Many publications (monographs and enquiries) dealing with the lot of farm labourers and other essential Swiss agricultural problems have been issued under the auspices of the Secretariat. A list of these publications will be found in a work edited by the Swiss Peasants' Secretariat, Brugg, and entitled : *50th Anniversary of the Swiss Peasant Union*, 1897-1947. Without all this preliminary work, some of permanent value, the Union would probably have been unable to obtain either such a notable improvement in the lot of farm labourers or such provisions for the social security of land workers.

The Union in this way took a part in the working out of the Federal law on sickness and accident insurance (1906-1907) just as the Secretariat, from the very start, devoted itself to the matter of the price of agricultural products and their cultivation within the country itself. To this end, and to keep farmers informed as to the prices of agricultural products and the yield of their harvests, the Office of Price Information (« l'Office de Renseignements sur les Prix ») was founded in 1909 and, a year later, the Swiss Office for Information on Insurance against illness and accident (« l'Office Suisse d'Information en matière d'assurance-maladie et accident ») was opened to steer farmers through the labyrinth of insurance policies.

During the war of 1914-1918 the whole Swiss people benefited by the efforts of the Union which had succeeded in improving the state of agriculture and in readying it for the national task it was about to be called upon to fulfil. A programme of measures to be taken to ensure delivery of livestock, milk, butter and cheese and the provision of cereals, vegetables, potatoes, etc. was drawn up in 1914 by Dr. Laur.

Another institution, the Farm Buildings Office of the Union (« l'Office de constructions agricoles de l'U.S.P. ») was actually founded in war-time (and was to take an unexpected turn, later on) to advise farmers on farm buildings and manufacturers on the choice and construction of the buildings and their fittings : stables and outbuildings, cider mills, cheese-dairies, drying sheds, threshing machines, distilleries, etc. The progress of mechanized farming inspired the Union to set up a Machines Division (« Division des machines ») in 1919, and this was expanded in 1922 into the Swiss Selection Foundation for the testing of instruments and machines used in agriculture, the dairy cow industry and forestry (« Foundation suisse *Trieur* pour les essais d'instruments et de machines employées pour l'agriculture, l'industrie laitière et la sylviculture »). This foundation has recently been expanded into a Swiss Institute for the mechanization and rationalization of farm labour or I.M.A. (« Institut suisse pour le machinisme et la rationalisation du travail dans l'agriculture »).

During the interval between the two world wars the Union tried by every possible means to soften the impact of the world economic crisis on Swiss agriculture. The progressive efforts made by the big farming co-operatives to increase livestock production date from this period. The Swiss Co-operative Society for the development of pigbreeding (Société Cooperative suisse pour la mise en valeur des porcs ») was founded in 1925 and the Central Office for the development of livestock for slaughter (« l'Office Central pour la mise en valeur du bétail de boucherie ») in 1929.

From this period also date two very comprehensive pieces of agricultural legislation ; one a Corn Law (1929) and the other a revision of the legislation concerning alcohol (1930).

The Union gained some important achievements in the field of social welfare during these years. A Swiss loan bank for financial aid to farm labourers and smallholders (« Caisse suisse de garantie financière pour ouvriers agricoles et petits paysans ») was founded in 1921 by the Union and, with major assistance from the government, the Relief fund for smallholders, farmers fallen into debt and farm labourers (« Fonds de Secours pour petits paysans, agriculteurs obérés et ouvriers agricoles ») in 1929, when the Relief for mountain regions (« l'Œuvre pour la montagne ») was also founded.

The world economic crisis, which entered its critical phase in 1930, affected Switzerland most in 1932. From this year date the first import

quotas and the foundation of Cantonal relief funds for peasants which paid out, up until the end of 1937, a grand total of 26 million francs. On the other hand the studies on the problem of farm mortgages, undertaken by the Secretariat, as far back as 1934, laid the groundwork for the Federal law for the abolishment of mortgages on farm property, a law which was not put into effect until January 1st 1937.

Finally, from 1938, the Union undertook to manage the country's supplies in the event of war. The Union strongly advocated a change in agricultural policy towards a reduction in livestock breeding and a corresponding increase in the area under cultivation. This work served as a basis for the agricultural expansion programme established as early as 1940 by Professor F. T. Wahlen.

During World War II the Union tried every possible means in the military and agricultural field to help the resistance of the country, surrounded as it was by the Axis powers. The Union took a large part in devising a system of Allocations for losses incurred by independent farmers serving in the forces (Régime des allocations pour perte de gain aux agriculteurs mobilisés de condition indépendante »), this was the first major legislative move in a social policy programme directed towards the Swiss farming class. In the years 1940-1945 the Union succeeded in having a farm labour draft law enacted and helped set up regulations aimed at stopping land speculation.

The Union has also done effective work in the international field. It was associated from 1905 with the work of the International Agricultural Institute in Rome where the Federal government sent Professor Laur as a regular delegate. Union representatives also attended the International Conference on Agriculture, The International Labour Conference, the International Conference on Agricultural Research, the International Wine Board, and often took an active part in the international agricultural meetings held in Prague (1931), Budapest (1934), The Hague (1937) and Dresden (1939).

The President of the U.S.P. and the Director of the Secretariat are the Union representatives to the Swiss National Committee of the FAO.

Short news items

The Paris Academy of Sciences publishes in its 18th Report (May 5th 1947) a very interesting account by Messrs. Edmond and Etienne Sergent on an experiment carried out by the Pasteur Institute in rendering healthy, and opening to agriculture, land, which men had fled for fear of malaria and from which they had kept their flocks for fear of piroplasmoses. The lands in question are situated in Algeria (the Ouled Mendil Marshes) and had previously been considered uninhabitable by the Algerian peasants. In 1927 the French Government granted the Pasteur Institute a marshy tract of 360 hectares situated in the township of Birtouta, 25 km. from Algiers. The first step was a methodical prophylactic campaign through medicines : every third day quinine was administered to all the inhabitants of the zone. Later an attack was made on the carrier of the virus (*Anopheles maculipennis*, Meigen, the labranchine Falleroni variety). The torrents which poured off the mountainside and onto the plain were led off into a series of rectangular storage and over-flow reservoirs which had been constructed in the centre of the marshy basin and which were put into use consecutively. Thus it was possible to level those hollows full of dangerous stagnating water and to abolish malaria by wiping out the mosquito. Since it was not possible to drain off the water it was stocked with a variety of small fish coming from Texas (Gambusia holbroki, Grd) which are insatiable devourers of the anopheles larvae.

This work was completed in 1936 and both marsh and pond were left off the maps drawn up that year.

F A O A C T I V I T I E S

The Third Annual Conference of FAO held at Geneva, 25th August. 15th September 1947

The Third Session of the Conference of the Food and Agriculture Organization of the United Nations, which closed in Geneva yesterday, took actions which broadened the scope of FAO and strengthened its working ties with member governments.

Most of the changes grew out of two major decisions — creation of a Council of FAO (generally known as the World Food Council), and approval of the report of the Preparatory Commission on World Food Proposals which met in Washington last winter.

As a result, FAO, which had been equipped only to collect and analyze the facts in its field, make recommendations, and offer technical assistance, now has the means of working directly with governments throughout the year to translate its fact-finding and analyses into action. The Conference decided, for example, that the work of the Inter-

national Emergency Food Council should be taken over a soon as possible by the FAO Council, which will coordinate the recommendations of allocations of scarce foods by the commodity committees now supervised by IEFC.

The Council of FAO. — The new Council, which replaces the Executive Committee as the governing body of FAO between annual sessions of the full Conference, consists of 18 member governments elected by the Conference. Each nation with a seat on the Council chooses its own representative. The Council is directed to establish a consultative technical coordinating committee to deal with the work of FAO's technical divisions, and a committee on financial control.

Viscount Bruce, formerly Prime Minister of Australia and more recently that country's High Commissioner in London, was elected independent chairman of the Council. Lord Bruce was chairman of the Preparatory Commission on World Food Proposals, and chairman of Commission I of the Geneva Conference that has just ended.

The 18 Nations elected as original members of the Council, and the number of years they will serve, follow:

Czechoslovakia (2), France (1), Italy (3), Netherlands (2), Denmark (1), and the United Kingdom (2); Canada (3) and the United States (3); Brazil (3), Chile (3), Cuba (2), and Mexico (1); China (2), India (1), and the Philippine Republic (2); Egypt (1); Union of South Africa (3); Australia (1).

Subsequent elections will be for three year terms, and nations are eligible for re-election.

Functions: The Council will act for the full Conference throughout the year within lines of general policy laid down at the annual sessions. It will keep the world food and agriculture situation under constant review and make whatever recommendations it considers necessary to member governments, intergovernment commodity authorities and other specialized international agencies.

The Council also will have the general supervision over FAO administration and policy formerly exercised by the FAO Executive Committee. Specifically, the Council's duties include: (1) promoting the study of agricultural commodity situations which are becoming critical; (2) keeping national situations and policies for food and agriculture under review; (3) watching developments in existing and proposed international commodity arrangements; (4) promoting consistency in national and international agricultural commodity policies in line with FAO's objectives of increasing production and consumption and raising living levels of producers; and (5) advising on emergency measures, especially concerning import and export of food and of materials of agricultural production. The last-named of these functions includes the work of recommending emergency allocations now carried on by the IEFC.

Effect of the changes. — Creation of the Council gives FAO a new instrument for dealing with governments and promoting prompt action on both short-term and long-term problems. The Executive Committee, which is replaced by the Council, was composed of 15 persons chosen by the Conference as individuals. Since they did not represent their governments, the members of the Committee could make only general recommendations on specific situations. Members of the new Council, speaking officially for their 18 governments, can frame recommendations that have every chance of being put into effect promptly by both national governments and intergovernment organizations.

While the World Food Board, as originally proposed by Sir John Boyd Orr at Copenhagen last year, would itself have done much of the actual work of promoting greater production and consumption of food and agricultural products, and of stabilizing prices at levels fair to both consumers and producers, the decisions of the Geneva Conference contemplate that the World Food Council has the task of promoting those same objectives, but that the specific measures for attaining those ends shall be taken by intergovernment commodity authorities set up separately for important food and agricultural products that move in world trade. The FAO Council, working closely with the proposed International Trade Organization and other interested specialized international agencies, will supervise and help coordinate the work of the commodity authorities from the standpoint of production, consumption and distribution of food and agricultural products.

The pattern along which the FAO Council will guide the commodity councils is set forth in the report of the Preparatory Commission on World Food Proposals.

Endorsement of the Preparatory Commission's Report. — The FAO Conference generally endorsed the report of the Preparatory Commission, which stressed the "importance of promoting agricultural and industrial expansion concurrently, especially in less developed countries." In attaining this end, the Conference emphasized the need for "effective overall coordination" of the work of the various United Nations agencies, and urges the Economic and Social Council to give this matter further attention. The Conference decided "that for a certain number of important commodities, commodity arrangements are the best means of assuring steady markets and price stability at a fair level, and thereby encouraging primary producers to plan with

confidence." No detailed recommendations were made as to techniques of commodity agreements, but the Conference report states that "the expansion of production to meet human needs and stabilization of prices at levels fair to producers and consumers alike, should find expression in any agreement negotiated. The restrictive practices of past agreements must as far as possible be avoided."

Review of the World Food and Agriculture Situation. — The Conference made a beginning toward establishing an annual review of national situations, programs, and plans in the fields of food and agriculture. Twenty-five member nations submitted periodic reports on their current positions and prospects for next year; and representatives of most of the nations at the Conference presented additional statements at the start of the session. It was on the basis of this material, plus supplementary information assembled by the FAO staff, that the Conference agreed that the world food situation could be described only as a crisis and that "the people in the deficit countries, many of whom have suffered undernourishment over a period of years, thus face the threat of lower rations than at any time since the war, and in a number of countries even lower than during the war." The recommendations of the Conference on measures to make the best use of current food supplies and make the next year's harvest as large as possible, were made in the light of "the critical food emergency which the world faces today."

The Conference decided to hold an annual world review of food and agriculture at each session, and provided for uniformity in the reports to be submitted each year by member governments.

Request for Broad Action. — The Conference commended its decisions to the attention of the General Assembly of the United Nations, and recommended: "That with respect to those aspects of the food and agriculture problem which extend into other fields and require action by other organizations, governments working through the United Nations and its economic agencies bring about parallel development of industry and trade, and through the Economic and Social Council secure effective integration of all efforts directed toward expansion of the world economy."

Appointment of a Director-General. — Another major item on the Conference agenda was selection of a new Director-General to replace Sir John Orr, whose terms was scheduled to expire at the end of 1947. The Conference decided to ask Sir John to remain until a successor can be found. The General Committee of the Conference reported that "there is not now available a candidate with the right qualifications." The Committee recommended that the Council of FAO be asked to produce a panel of at least three names, and suggested that a special session of the Conference could be convened in Washington, attended by diplomatic representatives of governments instructed on the one question. The Conference approved extension of Sir John Orr's term until the special conference, or if it should not be held, until the Fourth Session of the FAO Conference.

Selection of Permanent Site of FAO Headquarters.— Selection of a permanent site, another main item on the Conference agenda, was postponed for a year, pending study of all possible sites by the Council of FAO and a definite recommendation to the next annual Conference.

Relations with other Organizations. — The Conference ratified the draft working agreement between FAO and the International Labour Organization, and approved the draft of an agreement calling for close cooperation between FAO and the Interim Commission of the World Health Organization. It also noted creation of the International Children's Emergency Fund and urged all FAO members to cooperate in its work. The Conference also approved the policy being followed in developing relations with the United Nations in the technical and administrative fields "in a spirit of reciprocal cooperation."

Admission of New Members. — The Conference admitted five new member nations — Austria, Burma, Finland, Pakistan, and Siam. El Salvador had joined immediately before the Conference, bringing total membership to 54 nations.

Organization of the Conference. — The Conference opened August 25. Over 300 delegates from 48 member nations attended, and Argentina, Bulgaria, Iran, Roumania, Sweden, and Turkey sent observers. The Holy See, the United Nations and 6 specialized agencies, 7 international governmental and 12 non-governmental organizations were represented by observers. The Supreme Commander for the Allied Powers, Tokyo, also sent an observer.

Dr. F. T. Wahlen, of Switzerland, was elected chairman of the Conference. The three vice-chairmen were Dr. P. W. Tsou, of China, Dr. P. R. Viljoen, of the Union of South Africa, and Mahmoud Zaki Bey, of Egypt.

Following the recommendations of the General Committee, the Conference elected Viscount Bruce as chairman of Commission I on the world food and agriculture situation, Dr. P. J. du Toit, of the Union of South Africa as chairman of Commission II on the technical activities of FAO, and S. Y. Krishnaswamy of India as chairman of Commission III on constitutional, administrative, and financial questions.

The FAO mission to Poland.

Mr. Noble CLARK, *Director of the Wisconsin Agricultural Experiment Station, Head of the FAO Mission to Poland contributes the following statementg.*

"The FAO Mission to Poland is spending the month of September at the Rome offices of the Temporary Bureau of FAO in Europe while drafting the official report of its studies in Poland. All ten members of the Mission are in residence here, and have been assigned temporary offices at the FAO building.

Members of the Mission report that they travelled a total of 75,000 kilometers in all parts of Poland. They interviewed hundreds of Polish farmers, and discussed problems of agriculture and food supply with scores of government officials, university professors and others who were in position to supply helpful information. The active cooperation given the Mission by all persons in Poland with whom they came in contact has been repeatedly referred to by the members of the Mission, who have been emphatic in their expression of appreciation of the fine treatment they received while engaged in their investigations.

Before leaving Poland, several intimate discussions were held between the Mission and the leading government officials concerned with agriculture and the food supply. The preliminary conclusions of the Mission were frankly talked over, with all persons taking part and counseling with each other. The Mission left Warsaw on September 4th with warm expressions of appreciation and personal regard being exchanged on the basis of the mutually helpful and happy relationships which had been developed between the scientists in the Mission and the representatives of the Polish government.

The final report of the Mission is to be submitted to Director-General Sir John Boyd Orr. He and his associates in the Central Offices of FAO in Washington will arrange for the printing and the transmission of the report to the Polish government."

FAO instruction courses: Hybrid Maize, Artificial Insemination and Veterinary Laboratory Course.

The first of the Courses organized by FAO for the study and discussion of specialized subjects took place at Bergamo between 28th July and 12th August. At Curdomo, a few kilometres away, there is the Istituto Sperimentale di Maiscoltura, the only establishment in Europe devoted to research in hybrid maize; for this reason Bergamo was chosen as the centre for the course.

Dr. Luigi Fenaroli, Director of the Institute, acted as host to the meeting. Two top-flight experts were chosen as chief instructors: Dr. Merle Jenkins, of the U. S. Department of Agriculture's Plant Industry Section, and Dr. Pen Hudson, Director of the Imperial Bureau of Plant Breeding and Genetics at Cambridge.

The delegates represented nine countries: Austria, Czechoslovakia, France, Great Britain, Hungary, Italy, Portugal, Switzerland and Yugoslavia. In addition — because maize is so important a crop in the country's farming economy — over a dozen Provincial Inspectors assembled from their several provinces in Italy.

Dr. Jenkins, who for over 20 years has experimented with hybrid maize, was the principal speaker throughout. Beginning with the history of the crop in the United States, he proceeded with its commercial development, methods of breeding and production, treatment and grading, methods of testing and experimentation, and the discussion of American hybrids suitable for trial in Europe. Dr. Hudson dealt mainly with recent developments in plant breeding and plant genetics in general. Dr. M. Y. Nuttonson, a specialist on agro-climatic analogues, talked on plant adaption and behaviour and its bearing on the exchange of plant material between various countries.

Dr. Fenaroli discussed maize growing in Italy, and other speakers from time to time added further to the exhaustive symposium.

The theoretical side was counterbalanced by visits to experimental plots and by practical field demonstrations. After a little over two weeks, very little relating to maize could have been left unsaid.

The language problem solved itself in a practical way. English and Italian were selected as the principal ones, each talk being interrupted for translation from one to the other.

The Course in Artificial Insemination was held in Milan between August 4th and 14th. The host in this instance was Professor Telesforo Bonadonna, Director of the celebrated Spallanzani Institute. Three well-known authorities came to instruct: Dr. John Hammond of Cambridge University, Dr. Frederic Day of Newmarket, England, and Dr. Fred MacKenzie of the Department of Animal Husbandry, Oregon State College. There were delegates from Belgium, Czechoslovakia, France, Great Britain, Hungary, Italy, Luxembourg, the Netherlands, Norway, Portugal, Switzerland and Yugoslavia.

The programme was essentially practical. The Artificial Insemination Centre at S. Giuliano Milanese is extremely well equipped, and farmers from round about had provided a sufficiency of animals for demonstration purposes. In addition the Municipal Slaughterhouse offered facilities for experiments on cattle about to die.

Special stress was repeatedly laid on the importance of every veterinarian being perfect in the practice of insemination. To this end each delegate was given opportunities of proving his skill. The method advocated was that of inserting the arm in the rectum and guiding the vaginal syringe by touch, rather than by using the speculum. Dyes were used in the syringes, and soon afterwards the treated cows were slaughtered and their organs removed for inspection. By this means mistakes could be detected and pointed out.

Considerable attention was given to the subject of sterility in livestock; and a demonstration which proved to be of unusual interest was the use of hormones in promoting artificial lactation. Other demonstrations included the dilution and treatment of semen, and the use of the most modern kinds of instruments, some being unfamiliar to a number of the delegates.

The organization of A.I. Centres in America, Great Britain, Denmark and other countries was the subject of much discussion.

Films and lantern slides supplemented many of the lectures, and excursions were made to A. I. Stations, farms, and to the S. A. Galbani at Certosa di Pavia, where cheese is manufactured on a vast scale.

The Veterinary Laboratory Course took place in England from September 1st to 12th. On most of the days demonstrations and talks were given at the Veterinary Laboratories of the Ministry of Agriculture and Fisheries at New Haw, near Weybridge, Surrey. The Director, Professor Dalling, had planned a most comprehensive programme and gave every encouragement to the delegates to wander about the laboratories at will, and to ask all the questions they liked of himself and of the staff. The main subjects dealt with were advances in virus research, the production of vaccines and serums and methods of laboratory diagnosis of the common infectious diseases.

During the second week Dr. Jan Galloway invited the delegates to spend two days at the Foot-and-Mouth Disease Research Centre at Pirbright. Short talks and demonstrations were given by members of the staff on every aspect of foot-and-mouth disease: immunization, determination of immunological types of the virus, filtration technique, preparation of vaccines, housing and breeding of experimental animals, and so on.

On another day there was a visit to the Agricultural Research Council's station at Compton, Berkshire. This is an estate of over 1,000 acres devoted to experiments under field conditions. It is well equipped with laboratories and building and isolating livestock, and maintains a population of 72,000 animals, from guinea pigs to cattle. To supplement the programme there was also an excursion to the Ministry of Agriculture's Artificial Insemination Centre at Shinfield, near Reading.

Delegates to the Weybridge course represented Austria, Belgium, Czechoslovakia, Denmark, Eire, France, Hungary, Italy, Netherlands, Norway, Poland, Portugal and Switzerland.

The enthusiasm shown at these three courses was the most encouraging evidence of their usefulness, and the fraternization between the different delegates a heartening sign of international goodwill.

FAO National Committees

The fourth meeting of the FAO National Committees will take place in Rome during the first fortnight of December 1947. The exact date will be fixed later. The Director-General, of FAO, Sir John Boyd Orr, will be present at the meeting.

FAO Liaison with ECE

(Economic Commission for Europe)

Mr. Egon Glesinger, Chief of the Forest Products Branch in the FAO Division of Forestry and Forest Products, has been asked to cooperate in in organizing a Timber Sub-Committee for Europe. In his office Mr. Glesinger will act as the personal representative of Mr. Marcel Leloup, Director of the Division of Forestry and Forest Products, and is authorized to take whatever decisions may be necessary in connection with FAO's European work in the field of forestry and forest products. He will be assisted by Mr. René Fontaine, Technical Officer on the staff of the Division of Forestry and Forest Products.

The activities of these FAO Liaison officials will involve especially secretarial duties, statistics and research work.

Accommodation and the necessary facilities will be provided by the ECE.

To Geneva have been assigned, at the same time, Dr. Mordecai Ezekiel of FAO staff and Mr. Krolikowsky tent to FAO, to prepare a report for the ECE on the Reconstruction of European Agriculture.

Short news items

An Economic Review of Food and Agriculture, intended to be a quarterly publication, is to be issued shortly by the FAO Headquarters in Washington. It will include in its first number a review of the World Food and Agriculture situation of 1946-47 and an outlook for 1947-1948. Other articles and items will deal with the principal FAO activities such as FAO Mission, Conferences, etc. and economic problems falling within the scope of FAO work. The Review will be a help to those who are in search of first-hand information on current international economic issues.

" Unasylva ".

We are glad to bring to our reader's attention the first issue of the new review " Unasylva " (No. 1. July-August 1947) which will appear every two months. " Unasylva " is edited by the Division of Forestry and Forest Products of FAO and published by the Information Service at the Organization's temporary headquarters in Washington. The review is now published in English and French editions, with a Spanish edition planned for the near future.

The table of contents of the first issue lists the following articles : *One World—One Forest*, by Sir John Boyd Orr, Director General of FAO ; The *Disappearance of the Tropical Forests of Africa*, by A. M. A. Aubrèville, Conservator of Waters and Forests of France ; *Forest Utilization*, by J. A. Hall, Director of the Pacific Northwest Forest and Range Experiment Station, U. S. Forest Service ; The *Growth of the World's Forests*, by the Staff of the Division of Forestry and Forest Products of FAO ; *Timber Shortage and Timber Abundance in the U.S.A.*, by L. F. Watts, Chief of the United States Forest Service ; *Forest and Forest Products Research in Canada*, by D. Roy Cameron, Dominion Forester of Canada. The review has a special section on the work of the FAO in the realm of forestry and another on world news.

AGRICULTURAL NATIONAL PUBLICATIONS

CZECHOSLOVAKIA

We have been informed that an exchange of the Czechoslovak agricultural publications listed below is desired. Will those interested please communicate with: The *Temporary Bureau of FAO, Villa Borghese, Rome*, 9.

Agricultural Publications in 1947

Bramborářství a průmysl (*Potatoes and Industry*). Owner & publisher : Cooperative of Agricultural Distilleries. Published monthly. Annual subscription Kčs 120. Adm. Praha II, Na Poříčí 28. Technical journal for technical questions, practice, potato breeding and organization.

Časopis československých veterinářů (*Journal of Czechoslovak Veterinarians*). Owner & publisher : Board of Veterinarians. Publ. fortnightly. Adm. Praha II, Na Příkopě 6. Veterinary science and practice, new developments, etc.

Československý háj (*Czechoslovak Forests*). Publisher : Czechoslovak Forestry Association. Published monthly. Annual subscription Kčs 80. Adm. Písek, Svatoplukova 1. Popular monthly for dissemination of technical knowledge on forestry and hunting.

Československý les (*Czechoslovak Forests*). Owner & publisher : Association of Czechoslovak Forestry. Published fortnightly. Annual subscr. Kčs 150. Adm. Praha XI, Švihovského ul. 16. Popular and technical articles, forestry news, etc.

Československý rybář (*Czechoslovak Fisherman*). Publisher : Union of Fishermen in ČSR. Published monthly. Annual subscription Kčs 48. Editor's office : Praha X, Těšnov 12, Fishery Institute. Adm. Praha II, Opatovická 13.

Československý zahradník (*Czechoslovak Gardener*). Publisher : Union of Gardeners' Associations in Bohemia, Moravia and Silesia. Published weekly. Annual subscription Kčs 200 Adm. Praha XII, Bělehradská 94. Technical articles on gardening.

Český chmelař (*Czech Hopbreeder*). Publisher: Brázda. 18 publications per year. Annual subscription Kčs 36. Editor's office: Žatec, Chmelářské nám. 612. Adm. Žatec, Masarykovo nám. 18.

Český lid (*Czech People*). Publ. Brázda. Published monthly. Annual subscr. Kčs 100. Editor's office: Praha II, Václavské nám. 56. Adm. Praha II, tř. Jana Opletala 3. History of the countryside and rural life.

Český včelař (*Czech Beekeeper*). Owner & publisher : Bohemian Centre of Beekeepers' Association. Published monthly. Adm. Praha II Křemencová 8. Technical articles on beekeeping.

Český zemědělec (*Czech Farmer*). Publisher : Brázda. Published weekly. Supplement to " Agricultural Daily ". Adm. Praha II, tř. Jana Opletala 3. Technical articles on various agricultural questions.

Chovatel (*The Breeder*). Publisher : Brázda, Annual subscr. Kčs 60. Editors office : Praha II, Křemencová 8. Adm. Praha II, Opletalova 3. Technical journal for small animal breeders.

Jezdec a chovatel (*Horserider & Breeder*). Owner & publisher : Czechoslovak Horseriders' Association. Published monthly. Annual subs. Kčs 96. Adm. Praha XII, Slezská 7. Breeding, racing, riding. Technical and popular articles.

Kvas (*Ferment*). Publisher : Economic Group of the Brewing & Malting Industry. Published fortnightly. Annual subscr. Kčs 250. Adm. Praha II. Adm. Praha II, V tůních 1. Journal on brewing and malting industry, technical articles on latest developments.

Lesnická práce (*Forestry Work*). Publisher : Czechoslovak Forestry Association. Annual subscr. Kčs 120. Published monthly. Adm. Písek, Svatopluková ul. 1. Forestry science ; practice, technical, scientific and popular articles.

Listy cukrovarnické (*Sugar*) *Industry Bulletin*). Publisher : Central Association of Czechoslovak Industries, Economic Group of Sugar-Industry. Published weekly. Annual subscr. 200. Editor's office : Praha-Střešovice, Cukrovarnická 10. Adm. Praha II, Havlíčkovo nám. 31. Technical articles on sugar industry and research, news.

Mlékařské listy (*Dairy Bulletin*). Publisher : Trade Association of Dairy Cooperatives. Published fortnightly. Adm. Praha VII. Osadní 30. Journal on production, distribution and consumption of milk and milk products.

Mlynářské noviny (*Milling News*). Publisher : Economic Group of Milling Industries and Union of Millers. Association. Published weekly. Annual subsc. Kčs 180. Adm. Praha I, Revoluční tř. 1. News on milling industry and technical and popular articles on milling industry, organization, etc.

Náš chov (*Our Breed*). Publisher : Union of Czech Farmers. Published fortnightly. Annual subscr. Kčs 90. Adm. Praha II, Havlíčkovo nám. 4. Technical articles on livestock breeding.

Ovocnické rozhledy (*Fruit Growers' News*). Publisher: Czechoslovak Fruitgrowers' Union. Published monthly. Annual subscr. Kčs 60. Editor's office : Praha II, Václavské nám. 39. Adm. Praha II, V jámě 5. Technical and popular articles, organization.

Pekař (*Baker*). Owner & publisher : Union of Bakers Association in Bohemia and Moravia. Published fortnightly. Adm. Praha XII, Škretová ul. 12. Popular and technical journal for bakers.

Polana (*Highland Pasture*). Owner and Editor : Forestry and Timber Centre in Bratislava. Published monthly. Annual subscr. Kčs 60. Adm. Bratislava, Suvorovova 11. Slovak journal for forest husbandry and timber industry.

Pražská zahradnická bursa (*Prague Gardeners' Stock Exchange*). Owner & publisher : Cooperative of gardeners and horticulturists. Published weekly. Adm. Praha I, Revoluční 7. Economic questions and advertisements.

Přítel zahrad (*Garden's Friend*). Owner and publisher : Association of gardeners. Published monthly. Adm. Praha II. Myslíkova 15. Technical and popular articles connected with gardening.

Rolnické noviny (*Farmers' News*). Publisher: Cooperative publishers and booksellers in Bratislava. Published fortnightly. Annual subscr. Kčs 50. Adm. Bratislava, Stalinovo nám. 13. Technical and popular articles on all aspects of agriculture.

Rolnický obzor (*Farmer's Horizon*). Publishers : Union of Slovak Farmers. Published weekly. Annual subscr. Kčs 80. Editor's office: Prešov, Ul. partizánov 4. Agricultural policy, economics, technical and popular articles.

Sborník československé akademie zemědělské (*Almanac of the Czechoslovak Academy of Agriculture*). Publisher : Czechoslovak Academy of Agriculture. Published quarterly. Annual subscr. Kčs 300 Adm. Praha XII, Slezská 7. Scientific reports submitted to the meeting of the Czechoslovak Academy of Agriculture.

Note : Not yet published. Last issue No. 2, vol. 18.

Slovenské ovocnárstvo (*Slovak Fruitgrowing*). Publ. Slovak Fruitgrowers, Association. Fortnightly. Annual subcr. Kčs 60. Adm. Bratislava, Palisady 34. Technical journal for development of fruit and vine-growing and gardening.

Srp (*The Sickle*). Owner and publisher : State Publishing Office. Published 10 times per year. Annual subscr. Kčs 50. Editor : R. N. Dr. Ing. Jindřich Madar, Praha III, Karmelitská 5, Adm. Praha III Ostrovní ul. 30. Bulletin of popular agricultural schools and gardening schools for apprentices.

Stráž myslivosti (*Hunting News*). Publisher : Czechoslovak Hunters' Union. Published fortnightly. Editor : Jar. Svoboda. Adm. Brno, Smetanova 30. Popular and technical articles, organizational news.

Technická hlídka koželužská (*Technical Tanning Bulletin*). Publisher: Research Institute for Tannign Industries and Czechoslovak Assoc. of Chemists Working in the Tanning Industry. Published monthly. Annual subscr. Kčs 360 Adm. Brno, Rybkova 4. Technical articles.

Včela moravská (*Moravian Bee*). Publ.: Moravian Centre of Beekeepers Associations. Published monthly. Editor: Dr. Jan Kudlička, Brno. Bezručova 13. Popular and technical articles.

Venkovská žena (*Farmer's Wife*). Publisher: Ministry of Agriculture. Published fortnightly. Editor's office: Praha II, Na Těšnově 65. Annual subscr. Kčs 75. Adm: Orbis, Praha XII, Stalinova 46. Popular journal for the country woman.

Věstník československé akademie zemědělské (*Journal of the Czechoslovak Academy of Agriculture*). Publisher: Czechoslovak Academy of Agriculture. Published 10 time per year. Annual subscr. 300, Adm. Praha XII, Slezská 7. Scientific monthly for agricultural technology, economy, sociology and policy.

Věstnik kováčů a podkovářů (*Blacksmiths Journal*). Owner & Publ. Union of Blacksmiths Associations. Publ. fortnightly. Annual subscr. Kčs 70. Editor's office: Praha IX, Vysočany, U spalovny 797. Popular and technical articles.

Vinařský obzor. (*Vinegrowers, Horizon*). Publisher Central Assoc. of Czechoslovak Vinegrowers. Publ. monthly. Annual subcr. Kčs 60. Adm. Brno, Zemědělská 3. Vinegrowing, storage and marketing of wine in ČSR. Technical and popular articles.

Výživa lidu. (*Nutrition of the People*). Owner & Publisher: The Association for Rational Nutrition. Published monthly. Annual subscr. Kčs. 96. Adm. Praha I. Na Příkopě 31. Nutrition, research, science, practice, International organizations, UNRRA, FAO.

Zemědělcův rok (*The Farmer's Year*). Publisher: Brázda. Published monthly. Annual subscr. Kčs 75. Editor's office: Praha II, Václavské nám. 56. Adm. Praha II, tř. Jana Opletala 3.

Zemědělská statistika (*Agricultural Statistics*). Publisher: State Statistical Office. Published irregularly. Mimeographed. Adm. Praha VII. Bělského 2.

Zemědělské družstevní noviny (*Agricultural Cooperative News*). Publisher: Central Cooperative Board. Published weekly. Annual subscr. Kčs 104. Adm. Praha II Havlíčkovo nám. 12. News from agricultural cooperatives, technical articles on practical farming, current news of special interest to farmers.

Zemědělské noviny (*Agricultural Daily*). Publisher: Union of Czech Farmers. Published daily. Monthly subscr. Kčs. 30. Adm. Praha II, Opletalova 3.

Zemědělský pokrok (*Progress in Agriculture*). Publisher: Ministry of Agriculture. Published monthly. Annual subscr. Kčs 60. Admin. Praha II Těšnov 65. Monthly information for agricultural practice on agricultural research, education and advisory work.

Zemědělství a lesnictví (*Agriculture & Forestry*). Publisher: Práce. Published monthly. Annual subscr. Kčs 72. Editor's office: Praha II, Václavské nám. 15. Adm. Praha II, Václavské nám. 17. Technical and popular articles on various aspects of agriculture and forestry.

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JOURNALS PUBLISHED BY POLITICAL PARTIES AND OTHERS

Národní obroda (*National Rebirth*). Agricultural edition. Publ. Czechoslovak Peoples Party. Publ. weekly. Editors office and adm. Brno, Veveří 8.

Právo zemědělců (*Rights of the Farmers*). Publisher Czechoslovak Social Democratic Party. Published weekly. Annual subscr. Kčs 75. Adm. Praha II, Hybernská 7.

Svobodný venkov (*FreeCountryside*). Publisher: Executive Committee of the Czechoslovak National Socialist Party. Published weekly. Quarterly subscr. Kčs 39. Adm. Praha II, Václavské nám 36.

Zemědělská demokracie (*Agricultural Democracy*). Publisher: Czechoslovak Peoples (Catholic) Party. Published weekly. Annual subscr. Kčs. 70. Editor's office: Praha II, Václavská ul. 12. Adm. Praha I. Ul. 28 října č. 3.

Národní selka katolickým zemědělcům (Patriotic Farmer's Wife speaks to Catholic Farmers). Publisher Cultural Association for Ethics, Entertainment and Education of the Countryside. Published monthly. Annual subscr. Kčs 12. Adm. Josef Šamalík, Ostrov u Macochy.

Selské hlasy (*Farmers' Echo*). Publisher Associations for Ethic, Entertainment and Education of the Countryside. Published monthly. Annual subscr. Kčs. 12. Adm. Josef Šamalík, Ostrov u Macochy.

NATIONAL PERIODICALS ON AGRICULTURE

It is proposed to publish in the FAO European Bulletin a list of the principal agricultural periodicals which appear in the European countries, both members and non-members of the Food & Agriculture Organization of the United Nations.

We would therefore be very grateful for completion of the information already sent us on this subject by some National Committees, and for the receipt of lists from the other National Committees of their periodical publications concerning food, agriculture and the agricultural industries.

LEGISLATIVE NEWS

SUMMARY : I. – **Organizations of the United Nations** (Netherlands). — II. – **Nutrition** : (*a*) Agricultural products in general (Finland, Switzerland) ; (*b*) Cereals, flour, bread (Belgium, France, Greece, Italy, Luxemburg, Norway, Poland, Portugal, Sweden) ; (*c*) Meat (Greece, Luxemburg) ; (*d*) Milk and cheese, eggs (Finland, France, Luxemburg, Norway, Sweden) ; (*e*) Potatoes (Finland, Norway) ; (*f*) Sugar (Italy, Norway) ; (*g*) Olive oil (Italy) ; (*h*) Vegetables and fruit (Luxemburg, Sweden) ; (*i*) Cocoa, coffee, chocolate (Finland, Norway) ; (*j*) Syrups and alcoholic drinks (Norway). — III. – **Agriculture** : (*a*) Assistance to farmers for carrying out a plan of agricultural production (Czechoslovakia) ; (*b*) Land reclamation (Italy) ; (*c*) Regulation of various crops (France) ; (*d*) Phyto-sanitary control (Belgium, Norway); *e*) Stock-breeding (Luxemburg, Switzerland) ; *f*) Diseases of livestock (France, Norway) ; *g*) Agricultural contracts (France) ; (*h*) Agricultural credit (Finland, France, Greece) ; (*i*) Agricultural machinery (France). — IV. – **Economy and markets**: (*a*) Control of prices (Belgium, France, Netherlands); *b*) Control of foreign and domestic trade (Belgium, France, Italy, the Belgian-Luxemburghian Economic Union, Switzerland) ; (*c*) Trade in wool (Finland, Norway ; *d*) Trade in seeds (Finland) ; (*e*) Trade in fodder (Finland). — V. **Statistics** (Belgium, Luxemburg). — VI. **Forests** (France, Greece, Norway, Roumania). — VII. **Fishing** (Greece). — VIII. **Rural welfare** (France, Greece, Italy).

I. - ORGANIZATIONS OF THE UNITED NATIONS

NETHERLANDS

A Law of July 6, 1947 (*Stbl., No. A* 167, *August* 4, 1947) approves the Constitution of the Food and Agriculture Organization of the United Nations (FAO).

A Decree of May 26, 1947 (*N. S., No.* 107, *June* 6, 1947) sets up a Dutch Commission of International Co-operation on matters relating to education, science, and culture to act as a liaison body between United Nations Education, Science and Culture Organization (U. N. E. S. C. O.) and the Dutch people.

II. - NUTRITION

(*a*) Agricultural products in general.

FINLAND

The first number of the " European Bulletin of the FAO " (August-September 1947, p. 70) contained information showing that the compulsory delivery of agricultural products to the pools was regulated by the Resolution of August 8, 1946, still based on the Law of May 6, 1941, regulating the economic life of the country in times of emergency. As this resolution has been amended on several occasions it has been thought advisable to draft a new text, embodying all the modifications decreed until today and repealing the resolution of August 8, 1946 on the compulsory delivery of agricultural products.

Below is given a summary of the more recent legislative measures on the compulsory delivery of agricultural products which has for its purpose the exercise of a stricter control over the economic life of the country.

The Resolution of June 5, 1947, (*F. F., No.* 443-476, *June* 12, 1947, p. 737) defines once more what is meant by agricultural products, to wit : cereals, milk, and butter, and the oil-seeds listed by the Ministry of Supplies. By *cereals* are meant grain from which bread can be baked, and oats, ; bread grains are rye, wheat, barley, edible peas and buck-wheat ; by *milk* is meant cow's milk or cream turned into milk in conformity with the rules issued by the Ministry of Supplies.

The new Resolution also specifies the number of units of products subject to compulsory delivery per area cultivated. In each commune a " Classification Committee " is set up, charged each delivery year with classifying in different groups the farms located within the jurisdiction of the Ministry of Supplies, taking into account the natural conditions of production and other pertinent facts.

It likewise belongs to the aforesaid Ministry to fix the quantity of the several products forming a delivery unit, and the time within which the compulsory delivery must be made. Needless to say, the said Ministry is supposed to take any other steps that may be necessary should the producers fail to meet the obligations placed on them.

So as to assure a fair regulation of food supplies, a Resolution issued on July 18, 1947 (*F. F., No.* 594, *July* 18, 1947, p. 597) fixes the exact quantities of bread, sugar, edible fats, and foods and milk that may be purchased with ration cards corresponding to the different groups of foodstuffs.

SWITZERLAND

In Switzerland it has been found possible to suppress rationing for a certain number of foodstuffs. Thus Ordinance No. 182 of July 7, 1947, (*R. L. F., No.* 28, *July* 17, 1947, p. 829) repeals the rationing of jams, syrups and candied sugar, Ordinance No. 183, of July 7, 1947 (*ibidem*, p. 830) repeals the rationing of condensed sweetened milk and skimmed milk powder, and Ordinance No. 184 of July 25, 1947, (*R. F. L., No.* 30, *July* 31, 1947, p. 922) repeals the rationing of dietetic products and foods for babies.

(*b*) Cereals, flour, bread.

BELGIUM

The Ministerial Decree of July 1, 1947 (*M. B., No.* 84, *July* 3, 1947, p. 6471) on the mobilisation of the 1947 cereals, is prompted by the need "of preparing the total or partial mobilisation of the cereal harvest" and "by the need of fixing the minimum obligation that may be placed on producers". The yield of rye, spelt, meslin, barley and green barley is fixed by provincial committees, and when their returns have been approved by the Ministers of Agriculture and Food Supplies, they are communicated to the burgomasters of the communes. Those persons who consider themselves unable to reach the level fixed, may ask that an expert enquiry be made into the yield of their crop. The yield of wheat is fixed in conformity with the Decree of April 21, 1947 on the agricultural census (see the preceding number of the present Bulletin, p. 78). A card is filled in for each producer by the cantonal bureau of the General Direction of the Mobilisation of Agricultural Products of the Ministry of Food Supplies and Imports, stating: 1° the minimum production obtained from his land; 2° the quantity of which he may dispose freely; 3° the quantity he may be required to deliver. The Ministers of Agriculture and of Food Supplies and Imports will fix later on, in conformity with food supply needs, the quantities to be delivered. This Decree is followed by the Executive Ministerial Decree of July 28, 1947, (*M. B., No.* 214, *August* 2, 1947, p. 7187) which fixes the quantities the producers may deduct from the amounts harvested. It also provides that in return for their deliveries, the producers may receive other products (forage, cereals, maize, cattle-feeds).

The Ministerial Decree of June 10, 1947 (*M. B. No.* 163, *June* 12, 1947, p. 5844) refers to the returns bakers, confectioners, wholesalers, warehousers and retailers of flour are required to make. All these traders and producers residing in communes whose names are entered on the Schedule to the Decree, are required to make a return of the stocks of flour they hold. The Decree of July 23, 1947 (*M. B., No.* 208, *July* 27, 1947, p. 7044) places under the control of the Minister of Food Supplies and Imports the composition of the flour used in making bread.

FRANCE

The Decree of July 14, 1947 (*J. O., No.* 189, *August* 12, 1947, p. 7870), requires that the farmers make a return for the cereals harvested, entailing the engagement to deliver them.

The Decree of July 1, 1947 (*J. O., No.* 159, *July* 6, 1947, p. 6330) requires that, as from July 1, 1947, millers add to bread flours and to the substitutes mixed by them with such flours, carbonate of lime at a percentage to be specified by the National Interprofessional Office of Cereals.

GREECE

The several legal measures taken during the first quarter of the current year clearly show the intention of facing the food difficulties besetting the country, especially as regards cereals.

The situation is due to many causes both political and economic and to the poor yield of the crops.

Order No. 2117 of January 7, 1947 (*E. K., Part II, No.* 3, *January* 14, 1947, p. 16) issued by the Minister of Supplies, prohibits bakers from using flour other than the mixed type already fixed by another Order (80 % wheat, 15 % rye, and 5 % oats). The flour must not contain more than 10-12 % of bran.

Little loaves weighing 80 grammes may be baked. Bakers' shops may not keep on view more than 20 kilograms of bread.

Another Order, No. 5664 of January 15, 1947 (*E. K., Part II, No.* 10, *January* 31, 1947, p. 38) of the same Minister provides that in restaurants, cook-shops, bars, hotels, confectioners', dairies, and other shops where meals are served in the district of Athens and the Pyraeus, more than 80 gr. of bread may not be consumed with a meal (that is the weight of the little loaf fixed by the above-mentioned Order).

The customer however may, if he wish, also eat his bread ration, purchased with his food ticket.

Order No. 7164 of January 17, 1947 (*E. K., Part II, No.* 10, *January* 31, 1947, p. 38) forbids restaurants, confectioners, dairies, bars, etc. from serving daily a certain kind of sweet.

Order No. 8781, of January 20, 1947 (*E. K., Part II, No.* 10, *January* 31, 1947, p. 39) lays down the rules and obligations placed on owners of edible paste factories that import flour from abroad.

The above measures refer to the limitations placed on the consumption of cereals ; for the protection of cereal crops two Orders were issued, the first, No. 6153/81 of January 15, 1947, (*E. K., Part II, No.* 15, *February*, 11, 1947, p. 87) against the plague of rats, declares that the provinces of Beotia, Karditsa, Larissa, Magnesia, Prevesa, Phthiotis, and Chalcidicea are infested with rats.

The second Order takes measures for getting rid of the wild geese that have invaded Thessaly and might seriously injure the areas planted to cereals.

For this purpose, an Order No. 2380 of February 25, 1947, (*E. K., Part II, No.* 47, *April* 16, 1947 p. 231) requires all citizens from 16 to 60 years of age inhabiting Thessaly to work in turn at chasing the wild geese. Trespassers against this Order incur penalties under Law No. 1984/39 on compulsory labour service in the communes in cases of emergency.

ITALY

A Decree-Law No. 856, of June 28, 1947 (*G. U., No.* 208, *September* 11, 1947, p. 2698) charges to the Treasury the cost of the difference between the proceeds obtained from the sale of the cereals and the products derived therefrom and the expenses incurred in securing the supply and distribution of the cereals and derived products used for baking bread and for making edible pastes during the agricultural year 1946-47.

In determining the expenses incurred in connection with cereals grown in Italy and delivered to the Peoples' Granaries the sums paid to the consignors and the cost of managing the granaries are taken into account, while in determining the expenses incurred in connection with the marketing of the cereals and of the derived products, both national and imported, account is taken of the sums spent on carriage and warehousing and the cost of financing the said goods at the time of transport.

GRAND-DUCHY OF LUXEMBURG

The Ministerial Decree of July 30, 1947 (M. *L., No.* 38, *August* 11, 1947, p. 760) fixes an award of 100 Belgian francs per 100 kilograms to native producers of wheat and rye who have delivered the produce of their crops to grain merchants or to mills prior to January 31, 1948.

NORWAY

In Norway the Regulations of May 24, 1947 (*N. L., No.* 20, *June* 5, 1947, p. 324) ration flour (inclusive of potato-flour) pastry (except buns and Vienna bread), peas, beans, and meal.

Except in some special cases, it is forbidden to sell or purchase rationed goods without showing the food-cards, or else a special permit delivered by the " Food Committee " or by the " Direction for Supplies and Rationing ". Nevertheless, the goods in question may be freely served in restaurants.

Potato and rice may be sold freely under the rules issued by the " Direction for Supplies and Rationing ".

Any member of a private household, the crews of ships engaged in inland navigation, and hotel or boarding-house guests, receive ration-cards from the aforesaid " Direction ". Any transfer of these cards is forbidden.

The " Direction " fixes the quantities that may be sold to holders of the ration cards, and also the supplementary rations allowed to children, old people, and invalids.

The above provisions also fix the rations allowed to hospitals, prisons, infant schools, etc., and take other decisions relating to the sale of flour, bread, and the other products above mentioned.

POLAND

A Decree, issued by the Minister of Supplies jointly with the Ministers of Commerce and Industry, of Agriculture, etc., under date of May 2, 1947, relates to the milling of cereals and the results of the milling (*D. U., No.* 39, *May* 30, 1947, *text* 193, p. 593). The lowest returns are fixed at 90 % for rye and 80 % for wheat. The loss caused by siftings and additional cleaning of the cereal must not exceed 3 % of the weight brought to the mill. All by-products (bran, tailings, etc.), must be delivered to the owner of the grain, together with the main products. The Minister of Supplies will fix the rates due to the mill for grinding flour required for the rationed supplies. He may authorise mills to use for some purposes lower rates of bolting than those prescribed, and he will decide on the persons authorised to sell the flour thus obtained. The mills must keep books in which are entered the names and addresses of the persons or concerns bringing cereals, the kind of cereal, and the rate of bolting, the quantities ground for others' account or by order of the food supply authorities, the amounts received for milling, the quantities of products, both principal and by-products, obtained.

The millers are required to respect any priorities that may be ordered in favour of the food supply authorities. The Minister takes measures for assuring the application of the order which comes into force on publication.

PORTUGAL

The Decree No. 36,312 of May 30, 1947 (*D. d. G., Series* I, *No.* 123, *May* 30, 1947, p. 485) authorises the purchase and sale on the open market of maize grown on the mainland. The National Federation of Wheat Growers (F. N. P. T.) will continue purchasing, from growers who consent thereto, maize of the 1946 harvest at the prices and on the conditions already established. It will sell the maize to the mills and to individual buyers at the flat price of 1.90 escudo per kg., delivered at the farm or at the warehouse of the Federation. Some parts of the Decrees 23,816 of August 4, 1945, and 35,470 of January 25, 1946, and of the Order 10,751 of September 28, 1944, relating to maize grown on the mainland, are repealed.

Likewise, the Decree-Law No. 36,355 of June 17, 1947 (*D. d. G., Series* I, *No.* 137, *June* 17, 1947, p. 538) authorises the purchase and sale of rye on the open market. Henceforth the provisions of the Decree-Law No. 31,507 of September 15, 1941, authorising the National Credit Bank to make loans to growers of wheat and rye for the purchase of seed and fertiliser, cease to be applicable. Some precautions are taken in the case of loans already granted either by the National Bank or by other agricultural banks. All the guarantees provided are maintained. The borrowers may sell their crops freely, but they must hand over to the National Federation the sums required for meeting their obligations under pain of a criminal prosecution as dishonest depositaries.

Several Decree-Laws are repealed that dealt with rye : 31,189, 32,898, 33,782, 34,737 and 35,776, the first three issued in 1942, 1943 and 1944, and the two last on July 6, 1945 and July 31, 1946 ; some other provisions adopted in 1941 and 1944 are also repealed.

In connection with the two measures of 1947 above examined, a Decree of the Minister of Economy, No. 11,901, of June 25, 1947, (*D. d. G., Series* I, *No.* 144, *June* 25, 1947, p. 599), repeals, as of no practical value for one reason or another, the Decrees No. 10,751 of September 28, 1944, and No. 11,424 of July 15, 1946, on the use of passes or way-sheets for shipments of cereals or flour and the by-products of the mills.

SWEDEN

A Royal Decree, No. 36, of February 14, 1947, (*S. F., No.* 36-52, *February* 28, 1947, p. 87) repeals as from the end of February 1947 the Decree of November 1, 1940, No. 902, relating to the requisition of rice and rice seed and the Decree of December 6, 1940 No. 976, of the same year regulating the trade in rice and rice seed.

(*c*) Meat.

GREECE.

Measures have been taken to restrict the consumption of meat in view of the impoverishment of the country's livestock resources caused by the war and post-war events.

Thus Order No. 14,292 of February 6, 1947, (*E. K., Part* II, *No.* 14, *February* 11, 1947, p. 65) issued by the Minister of Supplies, limits the consumption of meat to three days a week and forbids bakers to accept meat to be baked on days when the sale is forbidden. Only in very exceptional cases, and under a permit issued by the aforesaid Ministry, may the consumption of meat be allowed otherwise than as above prescribed.

GRAND-DUCHY OF LUXEMBURG

The Ministerial Decree of July 1, 1947 (*M. L., No.* 32, *July* 19, 1947, p. 624) sets up a Meat Committee whose duty it is to advise the Minister of Economic Affairs on questions relating to securing meat supplies for the country. Representatives of the producers, of the wholesale fatted stock trade, of butchers and public victuallers will sit on this Committee.

(*d*) Milk and cheese, eggs.

FINLAND

In the first six months of the current year Finnish legislation has paid special attention to the regulation of the production of milk and dairy products which play an essential part in the food régime of the country.

Thus the Council of Ministers in a Resolution of May 22, 1947, No. 417 (*F. F., No.* 415-421, *May* 28, 1947, p. 663) has established in the first place the standardisation of milk based on its fat content. This standardisation must be made in the communes mentioned by the Minister of Supplies and in conformity with the instructions issued by him.

Milk is defined as cow's milk, and it must be standardised in the dairies. Care must be taken that it be not Pasteurised twice, should this be done at the time of standardising the milk. Dairies using milk coming from other dairies may not standardise the fatty content of the milk.

A Resolution of July 1, 1947 (*F. F., No.* 600, *July* 30, 1947, p. 973) fixes limits for the price of milk.

On this occasion the law has seen fit to define that the expression *milk* denotes, of course, whole cow's milk, but also standardised milk, cream, and skimmed milk. It states, however, that the measures just issued do not apply to milk delivered by the dairies, and coming direct from the keepers of the cows.

The maxima prices that may be charged for the products considered are listed separately for the different parts of the country. Nevertheless, the local offices of the Ministry of Supplies in the rural communes with a dense population may raise the prices fixed in the case of whole, unskimmed, unstandardised milk, but they may not exceed the retail prices fixed for the province.

Another Resolution dealing with the price of milk and dairy products has been passed by the Council of Ministers, No. 555 of June 26, 1947 (*F. F., No.* 554-555, *July* 10, 1947, p. 881), containing new provisions based on the Law of May 6, 1941, regulating the economic life of the country in times of emergency. The purpose of this last Resolution is to equalise the prices of dairy products and to encourage their sale. Thus the Council of Ministers, so as to secure equalisation, has provided stabilisation awards, compensation for lowering prices, grants in aid, and subventions towards cost of carriage.

The funds required for covering the outlays on these several forms of assistance and encouragement are written into the National Budget.

The awards granted with a view to the stabilisation of the prices of agricultural products are granted for milk intended for direct consumption and for ordinary butter.

Compensation for lowering the price of milk and grants in aid are allowed to certain groups of dairies and assimilated concerns for the sale of milk.

The subvention towards the cost of carriage is granted to dairies which convey the milk from the place of production to the several milk-shops.

The Ministry of Supplies, on the basis of the Resolution passed by the Council of Ministers on January 15, 1947 (*F. F., No.* 573-575, *July* 19, 1947, p. 911), has fixed the price of ordinary butter to be paid by the dairies to the keepers of cattle. These prices have been fixed respectively at 275 and 285 marks per kilogram for the first and second qualities. Special measures regulate retail prices.

The prices fixed vary according to the several parts of the country. The Resolution also lays down rules for packing and marking, the qualities required, etc.

FRANCE

Decree No. 47-1349 of July 18, 1947, (*J. O., No.* 171, *July* 22, 1947, p. 7067) amends art. 12 of the Decree of April 28, 1939, on the sale of raw milk for human consumption, and deals with the membership of the "Superior Commission on raw milk for human consumption" whose duty it is to advise the Minister of Agriculture on the application of the 1939 Decree.

The Decree of June 1, 1947 (*J. O., No.* 158, *July* 5, 1947, p. 6294), provides for the allocation to the producers of an additional ration of 500 grammes of butter or 2 kgs. of cheese for each 100 litres of milk deli vered by them, in addition to the minimum deliveries fixed by the decree of the Prefects under the provisions of the Order of July 17, 1945. The Decree No. 47-1498 of August 11, 1947 (*J. O., No.* 191, *August* 14, 1947, p. 8014), authorises "as an exceptional and provisional measure" the sale of margarine.

GRAND-DUCHY OF LUXEMBURG

The Ministerial Decree of July 19, 1947 (*M.L., No.* 35, *July* 26, 1947, p. 719) regulates the conditions for inspecting butter and for marking it as "2nd class dairy butter" and "cooking butter". As a general rule, all milk producers are required to deliver to an authorised dairy any milk in excess of the quantity needed for their households and farm purposes. Permits authorising butter to be made on the farm are cancelled; the Minister of Agriculture may, however, make exceptions to this rule. Account will be taken of the special conditions of the farm (isolated farms, etc.). This Decree is completed by an Order, dated July 21, 1947 (*Ibidem*, p. 721) which provides for the inspection of butter.

NORWAY

The provisions of the Decree of June 16, 1947 (*N. L., No.* 23, *June* 25, 1947, p. 382) empower in the first place the "Direction for Food Supplies and Rationing" to decide on the several kinds of cheese that may be made and their fatty content. The "Direction" also decides on the extent to which native and foreign cheeses are to be rationed, and issues regulations for the sale of cheese to private consumers, licensed victuallers, inland navigation ships, wholesalers and retailers. Wholesalers may only deliver cheeses to persons holding a special permit or export licence.

Dairies, central cheese factories. etc., must send in a report at the end of each month to the "Norwegian Dairy Central", showing stocks in warehouse, the amount of cheeses bought and sold during the month, etc.

Cheese-makers, whether on farms or on the Alpine pasture lands, are authorised to draw on their stocks 3 kilograms of cheese per annum and per head for each member of their household.

Lastly, detailed regulations show the quantity of cheese that keepers of goats who have hired their herds may dispose of, based on the period during which they have not had the use of the goats themselves. Similar regulations apply to persons keeping cows.

The Inspector in charge of the food supply services fixes the quantities of cheese to be delivered during the grazing season. Dairies and cheese factories may carry on their business in the districts fixed by the Norwegian Dairy Sales Centre.

SWEDEN

With a view to securing some degree of balance in the incomes of dairy and cheese businesses, the Swedish Government has just set up under the Decree No. 378 of July 10, 1947 (*S. F., No.* 378-380, *July* 10, 1947, p. 665), a tax on the sale of milk, cream, and cheese. This tax, known as an equalisation tax, is collected on the sales of the aforesaid products in the case of sales made by one dairy to another, and also on cream used for making ices and soft cheeses.

The "Food Committee" may, however, in certain cases, provide that the tax in question be collected also on the sale of the aforesaid products by the producer to a dairy. The tax may not exceed 3 öre per kilogram on milk and 50 öre on the other products.

(*e*) Potatoes.

FINLAND

A Resolution passed by the Ministry of Supplies, No. 501, of June 14, 1947 (*F. F., No.* 499-504, *June* 21, 1947, p. 775) repeals the Resolution of September 4, 1946, fixing the maxima prices for potatoes.

NORWAY

The Law of June 19, 1947, No. 7 (*N. L., No.* 23, *June* 25, 1947, p. 393) forbids the manufacture without a special permit, of potato-starch, syrup of glucose, tapioca, and dextrine. These products may be used for household needs, but all producers must comply scrupulously with any rules that may be issued under the aforesaid Law.

The a ove Law also lays down rules regulating the purchase of potatoes by producers, and the production and sale of potato-starch, syrups of glucose, tapioca and dextrine. Rules on prices, the sale and delivery of potatoes, the qualities required, the limits of production, etc. will be issued later on.

(*f*) Sugar.

ITALY

A Decree-Law of August 12, 1947, (*G. U., No.* 185, *August* 14, 1947, p. 2459) to meet the need of assuring the largest possible output of sugar to satisfy the essential food needs of the country, provides that sugar-beets are assigned for the production of sugar and may not be used for other purposes. Nevertheless, they may be used for making sweet syrups within limits fixed by the Decree itself. The syrups obtained from sugar-beets and their by-products are subject to the same quota and price regulations.

The use of sugar-beets for the production of alcohol may be authorised under certain conditions.

The conversion of sugar into syrups is forbidden if the method of preparation requires the intermediary production of raw or crystalised sugar.

NORWAY

In Norway note should be taken of the rules issued under date of June 5, 1947 on sugar (*N. L., No.* 21, *June* 16, 1947, p. 339). These Regulations ration the sale of syrup and glucose, which may only be bought or sold in conformity with the special provisions issued by the "Direction for Supplies and Rationing".

All persons belonging to private households, the crews of ships engaged in inland navigation, and the guests of hotels or boarding houses, receive ration cards from the "Food Commission".

The provisions of June 5, 1947, forbid any transfer of these ration cards, which are only valid when stamped by the Food Commission.

The Direction for Supplies and Rationing fixes the quantities of sugar that may be put on sale at any one time, and the rules to be followed for the sale of sugar in restaurants, on inland navigation boats, etc.

(*g*) Olive oil.

ITALY

A Decree-Law No. 605 of January 10, 1947 (*G. U., No.* 157, *July* 12, 1947, p. 2105) authorises the entry on the Budget of 200 million lire for the special service of supervision and control of the delivery of olive-oil to "the peoples' oil-pools" (*oleari del popolo*) for the agricultural year 1946-47. The Minister of Agriculture and Forests is empowered to grant advances on this sum to the National Office of the Economic Statistics of Agriculture (U. N. S. E. A.) to be reimbursed out of the additional price quotas applied to the price of the oil.

(*h*) Vegetables and fruit.

GRAND-DUCHY OF LUXEMBURG

The Ministerial Decree of June 27, 1947 (*M. L., No.* 32, *July* 19, 1947, p. 637) specifies the conditions required in order that pip-fruit and stone-fruit may meet the standards set upon, August 1, 1947 by the Administration of Agricultural Services. Fruits intended for export are required to meet these conditions. The aforesaid Administration may prescribe the use of standardised systems of packing.

SWEDEN

A Royal Order, No. 37, of February 14, 1947, (*S. F., No.* 36-52, *February* 28, 1947, p. 87) repeals as from the end of February 1947, the Decree No. 546 of June 28, 1941, relating to the requisition and regulation of the trade in peas and beans suited to human food.

(*i*) Cocoa, coffee, chocolate.

FINLAND

In Finland, a Resolution issued by the Ministry of Supplies, No. 446 (*F. F., No.* 444-451, *May* 31, 1947, p. 708) on the basis of the Resolution of November 30, 1946, contains further rules regulating the sale of coffee.

The sale of coffee is placed under strict government control. Thus Resolution No. 446 provides that coffee importers and business concerns selling coffee may not carry on their business otherwise than in conformity with the rules issued by the qualified Ministry. Coffee roasting concerns must also be authorised by the aforesaid Ministry; without such authorisation they cannot operate legally and they must observe the rules laid down by the Ministry when purchasing coffee. The same rules apply to wholesalers who must also be authorised by the qualified Ministry.

Retailers may only purchase coffee when authorised to do so by the qualified authorities.

NORWAY

In Norway, the Storting on June 30, 1947, (*N. L., No.* 26, *July* 11, 1947 p. 547) placed a duty on the sale of chocolate and sugared foods, — cocoa and chocolate.

The expression "cooking chocolate" refers to all chocolate with a fatty content of 26 %.

(*j*) Syrups and alcoholic drinks.

NORWAY

A Royal Notification, of June 3, 1947 (*N. L., No.* 25, *July* 8, 1947, p. 473), places a duty on the sale syrups for making fruit-drops at the rate of 16 öre per kilogram.

A duty of 5 öre per kilogram is also levied on the sale of maize, and one of 10 öre per kilogram on the sale of cornflour to be used for making starch.

A Notification issued on June 27, 1947 (*N. L., No.* 25, *July* 8, 1947, p. 473), sets up, as from July 1, an excise duty on the distillation of brandy, and on maize, doura, or rye used for distilling ethyl-ether and for brewing beer.

The above excise duties are fixed at the following rates: kr. 2.62 per litre if the alcoholic content is 100 %. The notification lays down the modalities for the payment of the duties on brandy of national production intended for export, and describes the several qualities and degrees of purity: denatured, distilled, and refined. The duties on maize are fixed per kilogram when the spirits obtained therefrom are intended for export; the duties on doura and rye are also fixed, taking into account the yield of spirits in litres.

The case in which the spirits obtained from these products are not fit for human consumption is also considered.

In such cases, the Ministry of Finance and Customs may grant the reimbursement of the duties. The same rule holds good for the distilling of ethylic ether.

III. - AGRICULTURE

(*a*) Assistance to farmers for carrying out a plan of agricultural production.

CZECHOSLOVAKIA

A Law of April 1, 1947 (*Sb. Z., No.* 29, *April* 17 1947, *text* 55, p. 383) deals with assistance to the farmers for the purpose of carrying out a plan of agricultural production. The said plan is part of a two year plan for 1947 and 1948 for the industrial and agricultural production of the country. To assure the execution of the agricultural part of this general plan and thus secure the use of all available land, the qualified offices and organs of the public administrative services must watch to see that a sufficient number of workers, machinery, and other requisites are available, and that co-operation or mutual aid is organised among the farmers. The Law points the several directions to be followed, among which voluntary help among neighbours is that which must be adopted first of all whenever possible.

When a land-owner sees that for lack of labour or requisites he will be unable to cultivate all or part of his lands, he must at once notify the local Peoples' Committee of the fact which will examine the situation and provide the assistance required. Should a land-owner neglect to cultivate his lands, or should a duly justified application be received, the said Committee may order that the uncultivated lands be leased for a period of three years to another farmer of the commune, care being taken that he be not over-burdened with work. The said farmer is required to accept this lease in so far as he can do so without injury to his own farm. He will operate the leased lands if necessary with the help of machines, etc., loaned him for the purpose. Should it be impossible to lease the land, the committee may, on the same conditions, cultivate it themselves. What has been said of a land-owner holds good also for a land-steward, tenant farmer, or other usufructuary.

The tenant of land held under a forced lease must farm it properly, use fertilisers, and pay a rent, fixed by the District Committee with due regard to all the circumstances of the case. The rent may in no case be less than the total amount due for taxes on the land in the previous year (land-tax and sur-taxes, and communal taxes).

Any permanent change which would convert, arable land into grass-lands, meadows, forests, etc. must — unless it form part of the general production plan — obtain the preliminary consent of the District Council on the recommendation of the District Section of the Farmers' Union. The Local Committee, after consulting the owners, may entrust non-agricultural lands to other persons, to be used for the purpose of cultivating useful plants or keeping farm-yard animals, but such use must always be for a limited period of time so as not to interfere with the final use of such lands as building lots, etc.

When a land-owner does not possess and cannot procure by himself or through his neighbours, the implements and the help needed for cultivating his land, and when the official farm machinery stations cannot meet the need, the law provides that all owners of agricultural implements, machinery, and, in exceptional cases, teams of oxen or horses, are required if it be so decided by the Local Peoples' Committee, to place such implements and machinery at his service, or to carry out the work themselves if by so doing they will not injure their own farms. The aforesaid owners appoint a person whose duty it is to look after the implements. This obligation rests on all owners of implements even if they be not themselves farmers, but it does not apply to dealers or manufacturers of agricultural implements nor to the farm-machinery stations. The Law provides for the payment of compensation for their use by the beneficiaries at a rate fixed by the Local Committees and which may be asked for in the form of labor, and it also provides for the need, if any, of repairing the implements to be loaned, the cost of such repairs being distributed among the parties concerned as each case may require. The same principle regulating the hire of implements applies to that of barns and other buildings the farmer may need.

Unless otherwise provided, the ordinary civil law regulates the legal relations to which these measures give rise. In the case of the compulsory lease of a farm already leased the former relation between lessor and lessee is not annulled nor is the obligation of the lessee to pay the rent cancelled.

The laws and decrees requiring that agricultural lands be farmed or making them subject to special supervision or approval, remain in force. Such are the Law of January 30, 1920, (linked to the agrarian reform) on the allocation of expropriated lands (known as the Allocation Law), the similar Law of May 27, 1931, the Law of March 29, 1940, on grass lands, etc.; the Presidential Decrees of June 21, 1945, of July 20, 1945, of October 25 1945, relating to the confiscation of lands belonging to enemies and traitors, to their settlement, etc. Therefore, in case of need, the Peoples' Committee act with the approval of the organs or offices vested with powers under the said provisions. Generally speaking, moreover, the Peoples' Committees take their decisions jointly with the Farmers' Union; should they fail to agree, the case must be deferred to the qualified Peoples' Committee of higher instance.

The following decrees are repealed: the Decree of February 22, 1940, on the use of land for the cultivation of useful plants; of April 29, 1940, for assuring the satisfactory operation of farms (in its final form of January 25, 1943); of October 13, 1942, on the obligation to operate agricultural lands in a suitable manner. Their repeal, however, does not annul the decisions taken prior to the approval of the Law, under the provisions of the said decrees.

The Law provides in the case of certain infringements (change in the use to which land is put, failure to make returns) fines inflicted by the District Committee for amounts of not less than 2,500 and not exceeding 10,000 crowns, or imprisonment for not more than one month. The Law came into force 7 days after enactment and will remain in force until December 31, 1948.

(*b*) Land reclamation.

ITALY

A Decree-Law, No. 621, of May 13, 1947, (*G. U., No.* 160, *July* 16, 1947, p. 2137), extends the rules relating to supervision contributions (*contributi di vigilanza*) as provided by the Decree-Law of September 5, 1938, No. 1536, to persons holding concessions for public land-reclamation works or receiving subsidies for land-improvement works, in conformity with the provisions of several decrees published during 1944-45 and 1946, with the exceptions laid down in the Decree itself.

(*c*) Regulation of various crops.

FRANCE

The Law No. 47-1326 (*J. O., No.* 169, *July* 19, 1947, p. 6918) aims at promoting the cultivation of wheat and rye by granting a bonus per hectare for the 1947 and 1948 crops. This bonus, however, will only be paid if a delivery engagement is signed.

(*d*) Phyto-sanitary control.

BELGIUM

The Regent's Decree of June 11, 1947 (*M. B., No.* 223-224, *August* 11-12, 1947, p. 7392) orders measures to be taken to prevent the introduction

into the country of the San José scale (*aspidiotus perniciosus*). All plants imported into Belgium must be accompanied by a certificate of origin declaring that they are free from this insect. The Belgian phytopathological service may also proceed to examine such plants whenever it may deem this advisable. Any person ascertaining the presence of the San José scale in his warehouses or on his plants is required to inform the burgomaster of the commune, who must give notice by telegram to the Minister of Agriculture. Officials charged with enforcing this Decree may visit all warehouses and all cultivated land where they may deem their presence necessary with a view to controlling the San José scale.

NORWAY

In Norway a Royal Resolution of June 27, 1947 (*N. L., No.* 27, *July* 14, 1947, p. 569) forbids for the time being the importation of live plants with roots, of bulbs, onions, tomatoes and egg-fruit, coming from countries where the presence of *Leptinotarsa decemlineata* has been ascertained.

These measures have been taken under the Law of July 21, 1916, for the control of insect pests and plant diseases.

The Ministry of Agriculture is empowered to make exceptions to this prohibition under certain specified conditions.

(*e*) Stock-breeding.

GRAND-DUCHY OF LUXEMBURG

The Grand-Ducal Decree of July 23, 1947 (*M. L., No.* 37, *August* 2, 1947, p. 743), repeals the Order of May 5, 1945, requiring that sheep and goats be entered in the live-stock control register.

SWITZERLAND

The Order of August 22, 1947 (*R. L. F., No.* 34, *August* 28, 1947, p. 954) aims at encouraging the breeding and sale of live-stock. Provision is made for grants either to enable the State bodies to purchase certain kinds of animals, or to facilitate the transport of animals and forage.

(*f*) Diseases of livestock.

FRANCE

As some centres of rinderpest infection have been signaled in the Mediterranean Basin, the Decree of July 22, 1947 (*J. O., No.* 175, *July* 27, 1947, p. 7312) forbids the importation and transit on French metropolitan territory of all live cattle, sheep, goats, other domestic or wild ruminants, and swine from all foreign countries. This prohibition is extended to cover fresh hides and skins and other products of the said animals coming from Asia, Africa, the Islands of Malta and Gozo. Meat coming from those countries and intended for victualling ships may not be unloaded.

NORWAY

The Law No. 6 of June 30, 1947 (*N. L., No.* 26, *July* 11, 1947, p. 509) amends the Law of July 14, 1894, along with the later additional Laws, containing measures for the control of the diseases of domestic animals. The amendments to the Law of 1894 make stricter the obligation placed on keepers of domestic animals in case of the outbreak of one of the diseases contemplated by the Law on epizootic diseases. With a view to controlling the diseases of domestic animals and preventing their spread, the new Law prescribes stricter supervision and control than heretofore.

(*g*) Agricultural contracts.

FRANCE

Decree No. 47-1453 of July 31, 1947 (*J. O., No.* 184, *August* 6, 1947, p. 7688) provides that during the 1946-47 season the price of wheat used as a basis for reckoning farm rents, is fixed at 10,030 francs per metric ton, and that of rye at 8,200 francs. per ton.

(*h*) Agricultural credit.

FINLAND

As regards agricultural credit in Finland, a Resolution taken by the Ministry of Agriculture, No. 516, of June 19, 1947, (*F. F., No.* 509-516, *June* 30, 1947, p. 807) based on the Decree implementing the Law on Land Settlement, has fixed a ceiling for the grant of loans assigned for the several settlement works. Government loans may not exceed 400,000, 600,000, 30,000, 50,000 and 200,000 marks respectively for:

(1) the purchase of a holding without any buildings;

(2) the purchase of a holding provided with buildings, the purchase of additional lands, the purchase of a building lot without buildings, and lastly the purchase of a holding with buildings.

In the case of loans for working the land, the Government grants them for sums representing 50 % of the expenses entailed by clearing the land.

FRANCE

The Law No. 47-1465 of August 8, 1947 (*J. O., No.* 187, *August* 9, 1947, p.7766), relating to certain financial measures, contains among others, provisions on agricultural credit. The maximum amount of the loans the Government may make to the *Caisse Nationale du Crédit Agricole* under the Decree-Law

of June 17, 1938, on the concession of middle and long term loans to communes or syndicates of communes for carrying out rural equipment works, is raised from 500 million to one thousand million francs. Amendments are made to the Law of February 19, 1942. The farmer receiving a loan from an agricultural credit bank may not remove his livestock or his crop without the consent of the bank if he has not yet returned the sum loaned him.

GREECE

Under the Law No. 747, 1945, regulating the grant of a government guarantee for the opening of credits and loans in behalf of public bodies, the Minister of Finance, by an Order No. 296,782 of November 7, 1946 (*E. K., Part II, No.* 2, *January* 8, 1947, p. 5) has provided for the grant of such a guarantee to the Bank of Greece for opening a credit in favour of the Agricultural Bank for 15 milliard drachmas at the annual rate of 3 % for a period of 6 months, for the purpose of pooling all the cotton grown in the country (ginned). The aforesaid period of six months may be extended.

(*i*) Agricultural machinery

FRANCE

The Decree of July 1, 1947 (*J. O., N.* 166, *July* 16, 1947, p. 6746) approves a partial plan for the construction of farm tractors. The construction of 52,700 tractors is foreseen.

IV. - ECONOMY AND MARKETS

(*a*) Control of prices.

BELGIUM

Several Ministerial Decrees deal with the control and regulation of prices. Thus the Decree of May 30, 1947 (*M. B., No.* 152, *June* 1, 1947, p. 5548) fixes maxima prices for milk and dairy products; the Decree of June 23, 1947 (*M. B., No.* 197, *July* 16, 1947, p. 6816) makes amendments in the Ministerial Decree of May 23, 1946, on flour; the Decree of June 23, 1947 (*M. B., No.* 227, *August* 15, 1947, p. 7536) amends previous legislative measures relating to the price of dry vegetables and certain cattle feeds; the two Decrees of July 1, 1947 (*M. B., No.* 188-189, *July* 7-8, 1947, p. 6605 *and* p. 6606) deal respectively with the prices of nitrogenous and potassic fertilisers; the Decree of July 24, 1947 (*M. B., No.* 207, *July* 26, 1947, p. 7022), fixes the maxima prices for butchers' stock; the Decree of July 29, 1947, (*M. B., No.* 212, *July* 31, 1947, p. 7105) changes the prices of subsidised foodstuffs (bread, flour, biscuits, chocolate, cocoa, meat and sausage-meats, oil, margarine, cheese, butter, milk, etc.); the Decree of August 7, 1947, (*M. B., No.* 234, *August* 22, 1947, p. 7633) regulates the prices of native cereal seed.

On the other hand, the Ministerial Decree of May 19, 1947, (*M. B., No.* 153-154, *June* 2-3, 1947, p. 5576) places cristalised sugar, artificial honey, some kinds of syrups and pastes for spreading on bread, under the ordinary price system.

The Decree of June 27, 1947 (*M. B., No.* 244-245, *September* 1-2, 1947, p. 7940) lays down the means for assigning subsidies for stabilising the price of nitrogenous fertilisers. The purpose of this measure is to avoid unfavourable reactions of the rise in the price of coal on the price of nitrogenous products.

The Decree of July 19, 1947 (*M. B.*, No. 206, *July* 19, 1947, p. 7008) relating to the returns to be made for stocks and to the reimbursement of various government grants given in the matter of food supplies, applies to businesses engaged in the preparation of food products. All the producers listed in art. 1 must make a return of the stocks held by them on July 26, 1947. As stated in the preamble, the purpose of the Decree is to offset the price rise which has occurred since the issue of the Decree of March 22, 1947, making grants to assist in securing food supplies for the country. In the words of the preamble: " the rise in prices following on the change made in the manner of allocating these grants would leave persons holding stocks a profit that does not result from their business, and if it were not returned to the Treasury it would amount to turning aside government donations from the purpose for which they were intended." Therefore, art. 4 of the Order states: " The businesses mentioned in art. 1 are required to pay to the Commercial Office on Food Supplies the difference between the maximum sales price on July 26, 1947 and the maximum sales price on August 1, 1947 . . . "

FRANCE

The Decree No. 47-1464 of August 7, 1947 (*J. O., No.* 186, *August* 8, 1947, p. 7750) and the Decrees No. 47-1556, 47-1557, and 47-1558 of August 19, 1947 (*J. O., No.* 196, *August* 21, 1947, p. 8263-8264), fix the prices of cereals.

The Decree of July 21, 1947 (*J. O., No.* 171, *July* 22, 1947, p. 7068) fixes the items entering into the price of wheat. The average flat yield used in calculating the cost of a ton of wheat is fixed for the 1947-48 season at 1.5 metric tons per hectare. On the basis of the calculation of the several expenses incurred by the grower as specified in this Decree, the purchase price on the farm is arrived at.

Decree No. 47-1402, of July 26, 1947 (*J. O., No.* 178, *July* 30, 1947, p. 7413) fixes the manner in which the prices of colza grain and other oil seeds and fruits are established.

NETHERLANDS

A Decree No. 1616/05, issued by the Ministers of Economy and of Agriculture under date of July 14, 1947 deals with the market prices of chemical fertilisers (*N. S.*, *No.* 134, *July* 15, 1947). The Decree defines the meaning of the expressions « chemical fertiliser » and « trader », and then specifies that the price charged by traders for quantities of more than 100 kilograms of *foreign* fertiliser, must be composed as follows: the purchase price, whether paid or still due, free at warehouse, taking into account any rebates, provided they be legal ; wages paid for handling ; and a margin of 0,70 fl. per 100 kgs. to cover incidental expenses and profits. In the case of *national* fertilisers, similar calculations will be made taking as starting point the normal price paid or due for the *last* purchase. All these prices are for fertiliser delivered by cart at the warehouse. In other cases and for quantities of less than 100 kgs., the extra charge must be reasonable. The trader must keep books showing price calculations. Any previous agreements on the mode of calculating the price arranged with persons or groups, are annulled. The General Director of Prices may make exceptions to the Decree, which came into force on June 1, 1947.

(*b*) Control of foreign and domestic trade.

BELGIUM

The Regent's Decree of May 1, 1947 (*M. B.*, *No.* 157, *June* 6, 1947, p. 5672) repeals articles 1 to 4 of the Royal Decree of August 26, 1938, setting up a Ministerial Committee of Economic Co-ordination. The co-ordination of the Government's economic policies is entrusted to a Ministerial Committee of Economic Co-ordination.

FRANCE

Decree No. 47-1300 of July 10, 1947 (*J. O.*, *No.* 166, *July* 16, 1947, p. 6744) published the provisional commercial agreement (« modus vivendi ») between France and Chili, signed on September 10, 1946. The agreement is based on the principle of the most favoured nation clause, and can be renewed every six months by tacit agreement. The Government of Chili grants free customs entry into Chili to bicalcic phosphates and natural phosphates and to a quota of 6,000 tons of French potassic fertiliser.

ITALY

The Decree-Law No. 797 of July 23, 1947 (*G. U.*, *No.* 196, *August* 28, 1947, p. 2563) raises the dues assigned to the National Foreign Trade Institute by Art. 1 of the Decree of September 16, 1946, No. 163, in return for the Services rendered by that Institute, to 100 lire per metric ton on fresh vegetables, tomatoes and potatoes ; to 150 lire per ton on citrus fruit, fruit in general and grapes, and to 250 lire per ton on dried fruit.

THE BELGIAN-LUXEMBURGHIAN ECONOMIC UNION

The Belgian Law of June 10, 1947 (*M. B.*, *No.* 176, *June* 25, 1947, p. 6271) deals with excise and customs-duties, modifying the import duties fixed by the Law of May 8, 1924. The Luxemburghian Ministerial Decree of July 4, 1947 (*M. L.*, *No.* 32, *July* 19, 1947, p. 625), adopts in part the Belgian Law (Articles 8 to 11, 14, and 16 to 24).

The Belgian Ministerial Decree of July 23, 1947 (*M. B.*, *No.* 207, *July* 26, 1947, p. 7016), amends the fiscal regulations for tobacco. The Luxemburghian Ministerial Decree of July 30, 1947, (*M. L.*, *No.* 38, *August* 11, 1947, p. 762) adopts the Belgian Decree.

The text of the Dutch-Belgian-Luxemburghian Customs[1] Agreement, signed in London on September 5, 1944, defined and interpreted in conformity with the Protocol signed at The Hague on March 14, 1947, is promulgated in the Grand-Duchy of Luxemburg by the Law of July 23, 1947 (*M. L.*, *No.* 36, *July* 30, 1947, p. 727).

SWITZERLAND

In the field of international economic relations mention should be made of the Decree of the Federal Council of June 16, 1947 (*R. L. F.*, *No.* 28, *July* 17, 1947, p. 820) amending the laws relating to the service of payments with Italy, applying more especially to insurance companies, whose payments will, in future, in a great number of cases, be made through the National Swiss Bank, and of the payment agreement between Switzerland and Norway of July 15, 1947 (*R. L. F.*, *No.* 30, *July* 31, 1947, p. 907). The payments provided for under this agreement, covering more especially purchases of goods, will be made through the Norges Bank and the Banque Nationale Suisse, at the official rate of exchange of 115.41 Norwegian crowns for 100 Swiss francs.

(c) Trade in wool.

FINLAND

In Finland the compulsory delivery of agricultural products is, generally speaking, carried out under the provisions of the Law of May 6, 1941, No. 303. To assure the supply of the country in essential products, the Law of 1941 empowered the Council of Ministers to edict all the measu-

res necessary for regulating the production, consumption, exportation, importation and transportation of movable goods and the use of immovables, but the Government, in view of the economic crisis that persists in Finland, had also been vested with powers to order the requisition or compulsory delivery of any product. The Resolution of the Council of Ministers of July 17, of this year, No. 595 (*F. F.*, *No.* 595-596, *July* 29, 1947, p. 961) lays down new rules of a stricter kind than the previous ones. It prescribes, for instance, that during the autumn season preceding the 1st of January 1948, the compulsory delivery of wool will be in the measure of 700 grammes for each sheep not less than 1 year old, of 300 grammes for each sheep under that age. The same rule will hold good for the spring season preceding July 1, 1948. The date of delivery is fixed respectively at August 31, 1947 and February 29, 1948.

The obligation holds good for anyone who has kept more than one sheep during the periods fixed. Persons belonging to the transferred population are however exempted from the compulsory delivery.

In the case of persons keeping sheep who are residing in a commune surrendered to the Union of Socialist Soviet Republics after the armistice treaty of September 19, 1944, and who have had to transfer themselves to another bordering commune, the quantity of wool to be delivered is reduced to one half.

NORWAY

Important measures have been issued in Norway on June 27, 1947, (*N. L.*, *No.* 28, *July* 23, 1947, p. 581), by the Ministry of Supplies and Reconstruction relating to the sale of home-grown wool. These measures are based on the Law of May 14, 1917, No. 5, containing provisions for assuring the supply of the country in foodstuffs and other products and the Royal Resolution of January 26, 1945.

The expression « wool-producer » applies to all persons keeping sheep. The production of wool is strictly regulated and controlled. Thus producers and tanneries tanning sheep-skins are forbidden to remove the wool to sell or alienate it, unless for the purpose of selling or delivering it to the « Norwegian Centre for Meat and Fats », to spinning mills, or other similar concerns.

Special provisions deal with wool coming from the District of Rogaland.

Textile mills are also forbidden to accept wool in exchange for other products. Producers are, however, allowed to dispose of a certain quantity of wool for their household needs.

The Direction for Industrial Supplies is nevertheless empowered to make some exceptions in special cases and to issue further rules relating to the information to be supplied, etc.

(*d*) Trade in seeds.

FINLAND

A Resolution of the Council of Ministers, No. 493, of June 12, 1947, (*F. F.*, *No.* 492-498, of *June* 18, 1947, p. 765), regulates the importation of clover and timothy-grass seed. These regulations are based on the Law of May 6, 1941, regulating the economic life of the country in times of emergency. To secure the fair distribution of these seeds, the resolution provides for the requisition of the aforesaid forage products coming from abroad. All importers of clover and timothy-grass seed are therefore required to supply specific information to the Ministry of Supplies on the volume and quality of the imported seed. Importers may only receive the merchandise when it complies with the prescriptions of the Ministry, which of course has the power to lay down rules for its distribution.

It should be mentioned that the Resolution of June 11, 1942, regulating the trade in native clover seed has been repealed by the Resolution No. 494 of June 12, 1947 (*F. F.*, *No.* 492-498, *June* 18, 1947,p. 766) and that another Resolution of the same date, No. 495, (*Ibidem*, p. 767) has also repealed a Resolution of December 13, 1945, regulating the sale of clover-seed.

(*e*) Trade in fodder.

FINLAND

A Resolution passed by the Ministry of Supplies, No. 573, of July 12, 1947 (*F. F.*, *No.* 573-575, *July* 19, 1947, p. 909) lays down further rules relating to the compulsory delivery of hay.

These measures, which complete those of July 26, 1946, provide for the case in which the hay-growers failed to comply with the obligation to deliver the 1946 hay-crop, and in such cases grants them the opportunity to make the deliveries due, taking them from the hay of the 1947 cut.

This Resolution also provides that anyone who has acquired a quantity of hay in excess of his strict requirements must deliver it to the extent prescribed to producers.

V. - STATISTICS

BELGIUM

The Regent's Decree of June 23, 1947 (*M. B.*, *No.* 207, *July* 26, 1947, p. 7019) orders a statistical enquiry into the situation and working of co-operative societies during the year 1946.

GRAND-DUCHY OF LUXEMBURG

The Ministerial Decree of August 2, 1947 (*M. L., No.* 38, *August* 11, 1947, p. 764) orders a statistical enquiry into wages. The preamble states that this measure is taken with a view to preparing a fiscal reform.

VI. - FORESTS

FRANCE

The Law No. 47-1465 of August 8, 1947 (*J. O., No.* 187, *August* 9, 1947, p. 7766), on certain financial measures, sets up a Committee of Control over the national forest funds.

GREECE

Order No. 4/410 of March 26, 1947 (*E. K., Part* II, *No.* 42, *March* 27, 1947, p. 200) issued by the Minister of Agriculture and Forests, amends the tables containing the rates of the duty levied under the Decree of August 21, 1941 on some forest products, such as firewood, charcoal, timber for building, and resins.

NORWAY

A provisional Law No. 7 of July 11, 1947 (*N. L., No.* 29, *July* 29, 1947, p. 648) sets up a duty on permits issued for the sale or utilisation of timber. The aforesaid Law will remain in force until July 1, 1949.

ROUMANIA

A Decree issued by the Minister of Agriculture under date of March 18, 1947 (*M. O., Part I, No.*69, *March* 24, 1947 p. 2176) provides for the possibility, under certain conditions and for a given period, of letting farm animals graze in the forests owned by the Government, private persons, etc. (except those belonging to the Institute of Forest Research or model forests). This possibility is enjoyed, in the first place, by the inhabitants of communes that do not own common grazing lands, and then by those communes whose grazing lands are insufficient. The boundaries of the areas assigned for grazing farm animals will be indicated by notices posted up in visible places by the forest keepers, or by natural boundaries and they must pertain to the following kinds of woods or forests : woods to be converted into grazing lands in virtue of definitive decisions taken for expropriating them under the agricultural reform law ; woods in bad condition which must be regenerated by artificial means, but in which preparatory work and reforestation has not yet been carried out ; forests and copses of more than a certain age ; under some conditions forests of soft wood and what are known as fen-land plantations, along the banks and islands of the Danube and other rivers. One quarter of the areas foreseen is reserved, except in cases of emergency, for game preserves. Two heads of cattle or ten of small farm animals is the largest number that may be grazed per hectare, young animals count for only half. In forests belonging to the State, to communities, or to juristic persons, located in districts affected by the drought, the right to graze is granted case by case at the request of the Prefect, to persons deprived of means. In all other cases the enjoyment of the right is subject to the payment for each head of livestock of a sum equal to 50 % of that fixed by the respective communes for the use of the common grazing lands.

In all cases, whether the use of the grazing lands be free or not, whether the forests be owned by State or by private persons, contracts are drawn up. In the case of forests belonging to the State or to communities, the District Forest Authorities must give their approval ; when the forests are privately owned, the State Forest Services fix in advance the areas to be used, the number of farm animals to be grazed, the means of access, the watering-places, the charge, and the contract is visèd by the Chief of Service of the Forest District. Failure to respect these conditions or the terms of the contracts, entails expulsion from the grazing lands, and the penalties provided under the Forest Code. The period during which these grazing lands may be thus used extends from April 1 to July 1, 1947 in the plains and hill-lands, from June 1 to September 15, 1947 in mountain woods of conifers. On certain areas the necessary space is reserved for the animals of the land-owner and of his dependents. Special guardians engaged by the owner of the animals with the approval of the mayor of the commune, are in charge. The owner of the stock and his guardians are held jointly responsible.

VII. - FISHING

GREECE

The Ministry of National Economy has issued a Decree, dated December 28, 1946 (*E. K., Part I, No.* 18, *January* 31, 1947, p. 93) amending the Decree of October 17, 1940, forbidding the use of certain systems and implements of fishing, specifically mentioned in the Decree, in the vicinity of the shores during the period from June 1 to September 30 of each year. The measure is justified by the fact that during those months of the year some kinds of fish spawn their eggs in the vicinity of the shore.

Another Decree, dated February 12, 1947 (*E. K., Part I, No.* 41, *March* 15, 1947, p. 241), also issued by the Minister of National Economy, provides measures regulating the kind of fishing known as *grigri*, in which circular nets are used along with very brilliant flash lights.

VIII. - RURAL WELFARE

FRANCE

The Law No. 47-1466 of August 9, 1947 (*J. O.*, *No.* 188, *August* 10, 1947, p. 7830), declares null and void the Laws of December 31, 1941 and May 23, 1943, on the requisition of labour for farms.

GREECE

The Order No. 176400, of December 28, 1946 (*E. K.*, *Part* II, *No.* 11, *February* 1, 1947, p. 45) issued by the Minister of Agriculture, extends for another agricultural year the legal provision contained in Order No. 91040/45 relating to the grant by the Government of national lands to farmers owning no property, subject to the obligation of cultivating them.

ITALY

A Decree-Law No. 670 of June 13, 1947 (*G. U.*, *No.* 170, of *July* 28, 1947, p. 2267) amends, in the case of agriculture, family allowances and the contributions relating thereto.

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SWEDEN	August-September	August-September	August-September	September	—	—
IRELAND	July-August	July-August	July-September	July-September	—	—
DENMARK	July-August	July-September	July-September	July-September	—	—
UNITED KINGDOM	July-September	July-September	July-September	July-September	—	—
NETHERLANDS	August-September	July-August	July-August	August-September	—	—
BELGIUM	July-September	July-August	July-August	August-September	—	—
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GERMANY	July-August	July-August	July-August	August-September	September	—
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U. S. S. R.	July-September	July-September	July-September	July-September	September-October	—
CZECHSLOVAKIA	July-August	July-August	July-August	August-September	September-October	—
AUSTRIA	July-August	July-August	July-August	August-September	September	—
FRANCE	June-August	July-August	July-August	July-August	September-October	—
SWITZERLAND	August-September	July-September	July-August	August-September	September-October	—
HUNGARY	June-July	June-July	June-July	July-August	September-November	October
ROUMANIA	June-August	June-August	June-July	July-August	September-November	October
YOUGOSLAVIA	June-July	June-July	June-July	June-August	September-November	October
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ALBANIA	June-July	June-July	June-July	June-August	August-October	October
SPAIN	May-August	June-August	June-August	June-August	August-November	August-October
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